

# 1971 OWNER'S MANUAL

IMPORTANT OPERATING, SAFETY, AND MAINTENANCE INSTRUCTIONS



# BUICK

SKYLARK

SKYLARK CUSTOM

G.S.

SPORT WAGON

## A WORD TO BUICK OWNERS....



FOR MAXIMUM PERFORMANCE AND ECONOMY KEEP YOUR GM CAR ALL GM. SPECIFY GENERAL MOTORS PARTS IDENTIFIED BY ONE OF THESE TRADE-MARKS:



This manual has been prepared to acquaint you with the operation and maintenance of your 1971 Buick, and to provide important safety information. We urge you to read it carefully and follow the recommendations contained to help assure the most enjoyable and trouble-free operation of your vehicle.

When it comes to service, remember that your Buick dealer knows your vehicle best and is interested in your complete satisfaction.

Return to him for Guardian Maintenance Service and any other assistance you may require.

To assist dealers in handling your needs, Buick Motor Division maintains a number of Zone Offices throughout the country. Should you have a problem that cannot be handled through normal channels, follow the procedure presented in Section 9 of this manual under the heading, "Owner Relations".

Regarding warranty, your Buick, when purchased new is covered by the Buick New Vehicle Warranty and the Policy on Buick Owner Service. Complete details will be found in the 1971 Buick New Vehicle Warranty and Policy On Owner Service folder which was given to you by your dealer at the time of new car delivery.

We would like to take this opportunity to thank you for choosing a Buick product - and assure you of our continuing interest in your motorizing pleasure and satisfaction.

# 1971 BUICK OWNER'S MANUAL

BUICK MOTOR DIVISION  
GENERAL MOTORS CORPORATION  
FLINT, MICHIGAN 48550

All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

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CLASSIC CAR ARCHIVE

# BEFORE DRIVING YOUR BUICK

## BREAK-IN PERIOD

The precision manufacture of your new Buick has eliminated need for tedious low speed driving during the break-in period. However, it is advantageous to the life of all close-fitting parts to limit speed to a maximum of 65 miles per hour during the first 100 miles with moderate stopping and starting. After the first 100 miles, speeds may be increased gradually as mileage accumulates, but up to 500 miles avoid driving for extended periods at any one speed. Varying the speed and including some higher speeds within the limits of the law, promotes longer life of parts and better economy of oil and gasoline. Never subject your car to full throttle acceleration or high speed until the engine is thoroughly warm.

## KEYS

TWO separate keys are provided for your car. Each key has a different cross section so that it can be inserted only in certain locks.

- Key with square head (stamped "A") -- for ignition switch, door locks, and Sportwagon tailgate.
- Key with oval head (stamped "B") -- for all other locks.



The code number of each key is stamped on the "latch out" plug in the key head. Your Buick dealer removed these plugs and placed them with the spare set of keys in the special key envelope that was given to you at time of delivery. For your protection:

- Record the numbers on the key envelope and discard the key plugs.
- Keep the key envelope in a safe place such as your wallet, **NOT IN THE CAR**.

In the event the original keys are lost, duplicates can be made by your dealer or a locksmith using the key code information.

*Be sure to lock the glove box or console compartments and remove the key from the car whenever it is necessary to leave the ignition key with an attendant.*

## DOOR LOCKS

- Lock doors from inside by depressing passenger guard door lock buttons
- Lock doors from outside by first depressing door lock button, then pushing on outside door release while closing door.  
or
- Lock door using key

## ELECTRIC DOOR LOCK OPTION

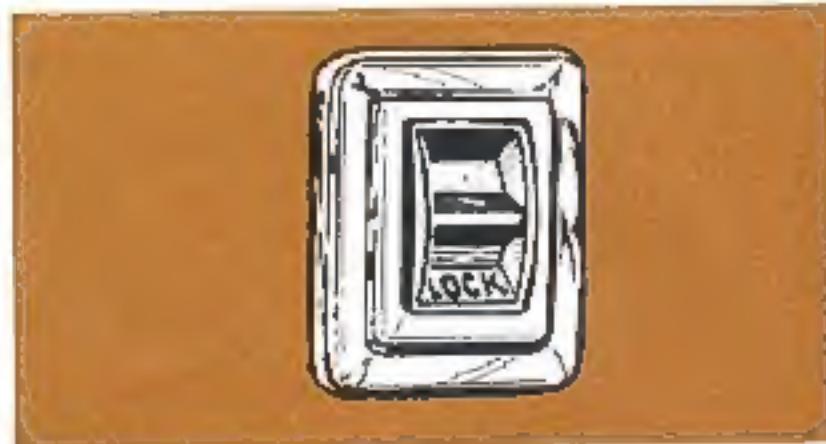
- Lock all doors by pushing lock switch toward "LOCK" or in the conventional manner.
- Unlock with key or by pushing switch away from "LOCK".

**REMINDER:** Always lock the doors when driving, for greater security in the event of an accident and for security against unauthorized entries.

## SEATS

### SEAT BACK LOCKS

Folding seat backs are equipped with self-latching mechanisms and release controls designed for the convenience of entering and exiting passengers.



## MANUALLY ADJUSTED SEATS

The front seat can be moved forward or rearward by moving the control lever on the driver's side of the seat forward and exerting slight body pressure in the direction desired. The seat is locked in position when the lever is released.

**CAUTION:** Do not adjust a manually operated driver's seat while the car is moving -- the seat could move unexpectedly, causing loss of control.

## POWER ADJUSTED SEATS

Move the seat in the direction desired by light finger pressure on the seat switch in the corresponding direction. When the switch is released the seat is locked into position.

## POWER WINDOWS

Buick power windows have an ignition interlock so the windows cannot be operated unless the ignition switch is in the "on" or "accessory" position.

**Reminder:** Remove the ignition key when the vehicle is not attended by a responsible person. A master control for all windows is provided at the driver's position. Individual switches are provided under each window for passenger use.

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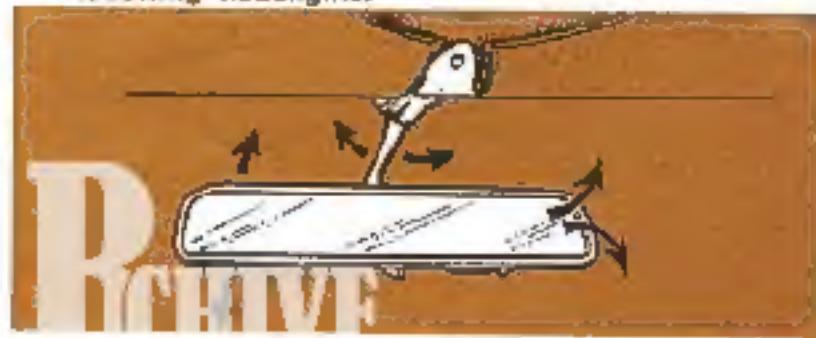
**CAUTION:** The filter panel between the rear seat and the rear window should not be used for storage—even of light weight, small articles. They might become dangerous projectiles during a collision or sudden stop. Larger items may also reduce vision to the rear.

**REMINDER:** While the car is being driven, avoid hanging objects on the right hand coat hook in such a way that you block the driver's vision to the right rear quarter.

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## INSIDE REARVIEW MIRRORS

- Inside mirror has day/night control to change reflectivity.
- Switch mirror to night position to reduce glare from following headlights.



- To raise or lower, grasp mirror and exert sufficient pressure by pushing or pulling to move mirror support rod toward or away from windshield, and up or down. The upper ball joint, where the support rod meets the roof, and the knee at the lower end of the rod work together to permit setting the mirror at a variety of heights.

## HEAD RESTRAINTS

- Head restraints are designed to help reduce injuries due to "whiplash".
- Select the position - up or down - which places the top of the head restraint closest to the top of your ears.
- Do not use head restraint above the up detent position.
- Head restraint can be raised by pulling up until you feel the spring latch seat in the detent position.
- To lower, release latch at base of supporting rod and push down on restraint.
- Do not operate vehicle with head restraints removed.
- Head restraint will help protect rear seat passengers by shielding head restraint mounting hardware on front seat back from impact by rear seat passengers.

## LAP BELTS

After the front seat has been adjusted to the satisfaction of the driver, sit erect and well back in the seat, grasp the buckle end and the flat metal "yo" end of your individual belt assembly and position the belt across the



lap as LOW ON THE HIPS AS POSSIBLE. Insert the metal eye into the open end of the buckle until an audible snap is heard. Make sure the connection is secure and, to reduce the risk of sliding under the belt, adjust it to a SNUG FIT by pulling on the end of the belt extending from the buckle. The snug and low positions are essential in order that the force exerted by the lap belt in a collision will be spread over the strong hip bone structure and not across the soft abdominal area which could result in serious injury. For retractor-equipped belts, pull the retractor half of the belt out to a solid stop to make sure the belt webbing is completely unwound from the retractor; then connect the belt and make the necessary adjustments at the buckle for proper fit. To lengthen a lap belt, place the buckle at right angles to the belt webbing. The belt will then slide easily through the buckle. To unfasten the lap belt, simply depress the push button located in the center of the buckle.

Automatic-locking lap belt retractors are provided for the added convenience of the driver and outboard front seat passenger as an extra cost option. The automatic-locking retractors adjust and lock the lap belt into position automatically after fastening.

To fasten a lap belt equipped with an automatic-locking retractor, pull the webbing across the lap far enough to permit inserting the flat metal "eye" end into the buckle. If the webbing is not initially pulled out far enough to permit buckling, release the webbing, allowing it to rewind in the retractor and release the locking mechanism, so

the webbing can be pulled out to the proper length. Once the buckle is fastened, pull the belt firmly across the lap in the direction of the retractor to obtain a snug fit. The retractor will automatically take up the excess webbing.

**CAUTION:** Never use the same belt for more than one person at a time. Be sure to avoid: (a) wearing a lap belt loosely or with slack in the belt system; (b) wearing the belt with the webbing not fully extracted from a non-locking retractor; or (c) wearing the belt in a twisted condition or pinched between the seat structural (metallic) members.

## SHOULDER BELTS



When properly worn with a lap belt, a shoulder belt can provide additional protection against impact with the car interior by restraining forward motion of the upper torso in a collision. This is primarily true in case of frontal impacts, which are the most frequent type of accident.

**CAUTION:** The use of a shoulder belt is not recommended for a person less than 4 feet 7 inches in height because the belt could substantially increase the danger of neck injury in a collision. To avoid improper force distribution, the shoulder belt should not be worn under the arm.

Shoulder belts are fastened and unfastened in the same manner as lap belts. A shoulder belt should have sufficient slack to insert a fist's width between your chest and the belt. This can be checked by inserting a clenched fist between the belt and your chest with thumb against chest and back of hand facing upward.

**CAUTION:** Shoulder belts should be attached only to belt ends inboard of the occupant (toward center of car). Serious injury could result in an accident if the shoulder belt is attached to the outboard belt end. Wearing a shoulder belt without a lap belt could be extremely hazardous to the wearer in case of an accident. The driver's shoulder belt should be adjusted so the driver can reach essential operating controls without undue restraint.

When not in use, shoulder belts should be secured in the special storage convenience provision, to reduce the danger of the metal end striking an occupant in a sudden stop. When storage provisions are not provided, the loose end mounted on the upper structure should be fastened to the floor-mounted end, and adjusted to remove excess slack.

Passengers in the rear seat of a convertible must remove any shoulder belts BEFORE the top is lowered. Rear shoulder belts require readjustment after the top has been either lowered or raised.

## SEAT BELT INSPECTION AND CARE

- Keep sharp edges and damaging objects away from belts.
- Periodically inspect belts, buckles, retractors, and anchors for damage that could lessen the effectiveness of the restraint system.
- Have questionable parts replaced.
- Replace belts if cut, weakened, frayed, or subjected to collision loads.
- Check that anchor mounting bolts are tight to the floor.
- Keep seat belts clean and dry.
- Clean only with mild soap solution and lukewarm water.
- Do not bleach or dye belts since this may severely weaken belts.

## CHILD RESTRAINT

Children in automobiles should be restrained to lessen the risk of injury in accidents, sudden stops or other driving conditions. General Motors has designed an "INFANT SAFETY CARRIER" specifically for infants and a "CHILD SAFETY SEAT" specifically for small children which are available from your Buick dealer. The Carrier and Child Seat are designed to fit the lap belts in your 1971 Buick.



The General Motor's Infant Safety Carrier and the Child Safety Seat must be used only in passenger vehicle seats equipped with lap belts. They must be used only on front or rear seats which do not fold or on folding seats equipped with a latch to hold the seat back upright. Standard on 1967 and later model GM passenger vehicles, in using either Carrier or Child Seat read and comply with all installation and usage instructions. Do not place more than one child at a time in the Carrier or Child seat. The Carrier is designed for use only with infants weighing up to 20 pounds. The Child Seat is designed for use only by children weighing up to 30 pounds and who are able to sit up by themselves. All unused seat belts near the Carrier or Child Seat should be stowed properly to help prevent them from striking the child in the event of a sudden stop or collision. Shoulder belts should be stowed in any special storage convenience provision provided. Lap belts and shoulder belts without storage provisions should have buckles latched and belts adjusted to remove slack.

## CARS NOT EQUIPPED WITH SPECIAL CHILD RESTRAINTS

If a child is traveling in a vehicle not equipped with a General Motors infant Safety carrier or Child Safety Seat the following precautions should be taken:

1. Children should be placed in the rear seat. Never let a child stand or kneel on any seat.

- (2) Infants unable to sit up by themselves should be restrained by placing them in a covered, padded bassinet which is placed crossways in the vehicle (widthwise) on the rear seat. The bassinet should be securely restrained with the regular vehicle seat belts. An alternate method is to position the bassinet so that it rests against the back of the front seat again crossways in the vehicle.
- (3) When a child is old enough to sit up by himself in a car he should sit on a firm cushion and use no conventional strap to restrain him as he hops. The cushion should be as firm as practical and just high enough to enable the child to look horizontally out of the car windows.
- (4) The use of the cushion should be discontinued as soon as the child is old enough to see out of the car windows without it.
- (5) Do not use shoulder belts on children shorter than approximately 4 feet 7 inches in height.
- (6) General Motors recommends that children be restrained when riding. However, if conditions require that a child must stand, he should stand on the floor directly behind the front seat. This will minimize the possibility of his being thrown from the rear compartment during a sudden stop. This method should be used only if no complete rear seat is available.



## TRAILER HAULING

Since Passenger cars are designed and intended to be used primarily as passenger conveyances towing a trailer will affect handling, durability and economy. Maximum safety and satisfaction depends upon proper use of correct equipment and avoiding overloads and other abusive operation.

The maximum loaded trailer weight which you can pull with your Buick depends on what special equipment it has been installed on your car. Buick Motor Division does not recommend towing any trailer unless the car is properly equipped. Information on trailer hauling capabilities and equipment required and optional equipment offered by Buick is available from your Buick Dealer or by writing Buick Motor Division, Owner Relations Dept., Flint, Mich. 48550.

Use of bumper hitches is not recommended; however, their installations may be made if in accord with proper instructions. Wall-mounted hitches should not be used.

To assist in attaining good handling of the car-trailer combination, it is important that the tongue load be maintained at approximately 10% of the loaded trailer weight. Tongue loads can be adjusted by proper distribution of the load in the trailer and can be checked by weighting separately the loaded trailer and then the tongue.

When towing trailers, tires should be inflated to the standard inflation pressures shown on the placard affixed to the glove box door. The allowable passenger and cargo load also shown on the same placard is reduced by an amount equal to the trailer tongue load on the trailer hitch.

## MAINTENANCE

More frequent vehicle maintenance is required when using your car to pull a trailer. Change the:

- Automatic transmission fluid each 12,000 miles,
- Engine oil each 60 days or 3,000 miles, whichever occurs first
- Positive crankcase ventilation valve each 12 months or 12,000 miles, whichever occurs first

## BREAK-IN SCHEDULE

In addition to the new car break-in instruction in this manual, it is recommended that the car be broken in for 500 miles before the trailer is used.

necessary to low during this period, avoid speeds over 50 MPH and full throttle starts. The same precautions should be observed whenever a new engine transmission or axle is installed in your car.

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**CAUTIONS:**

- (1) A frame mounted load equalizing hitch with sway control of sufficient capacity is required for trailers over 2,000 lbs loaded weight.
- (2) Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels or tires.
- (3) Trailer brakes are required on trailers over 1,000 lbs. loaded weight.
- (4) Do not tap into the car's hydraulic brake system to couple with a trailer hydraulic brake system. Master cylinder fluid capacity may not be sufficient to operate both car and trailer brakes.
- (5) Whenever a trailer hitch is removed, be certain to have any mounting holes in the underbody properly sealed to prevent possible entry of exhaust fumes, dirt or water.

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## *STARTING and OPERATING . . . . .*

## ENGINE EXHAUST GAS CAUTION (CARBON MONOXIDE)

After taking a bath of water because they consider a bath sweating which be the best to coolness and odorous. But the water

The new passenger car parts of the 1980s were designed to be more spacious and comfortable. Newer models also featured more advanced safety features, such as air bags and anti-lock brakes.

THE USE OF A SAVING FOR HOME PURCHASE FOR AN EXTENDED PERIOD IS NOT A MISTAKE.

Driving the vehicle for more than needed to reach a destination or to get to and from the fuel stop is illegal. It is illegal to drive for any more than a short period. The following period is illegal:

After the cooling air turns to the outside air intake with blower set at medium or high speed and controls set in any position except "RECIRC." or "OFF".

Following precautions should be observed:

### Close all windows

PCIe 4.0 x16 is the latest in high-speed PCI Express and is fully functional.

# STEERING COLUMN CONTROLS

## ANTI-THEFT STEERING COLUMN LOCK

The anti-theft lock, located on the right side of the steering column, has five positions.

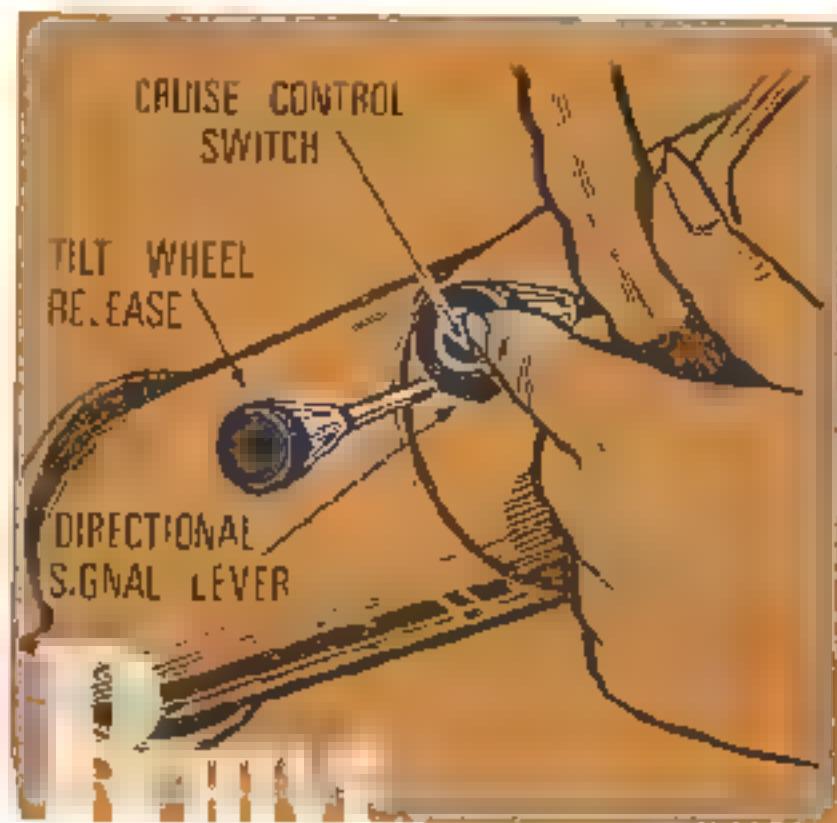
- Accessory -- Permits operation of electrical accessories when engine is not running. To engage, push key in and turn toward you (counter-clockwise).
- Lock -- Normal parking position. Locks ignition and provides added theft protection by preventing normal operation of steering wheel and shift controls. Key cannot be returned to "lock" position and removed until transmission is placed in "Park" (automatic transmissions) or in reverse on manual transmission models.
- Off -- Permits turning engine off without locking steering wheel and shift controls.
- Run -- Normal operating position.
- Start -- Permits engagement of starter.

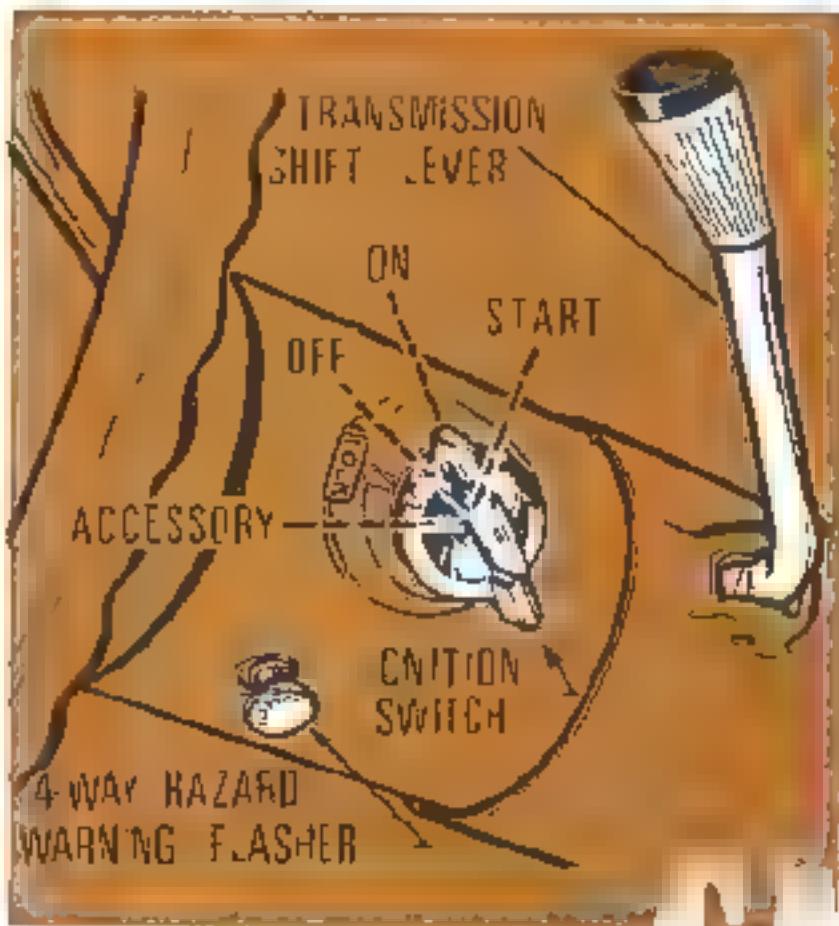
**NOTE** The anti-theft steering column lock is not a substitute for the parking brake. Always set the parking brake when leaving the car unattended.

When parking—

- Always let go of steering wheel before turning ignition key to lock position.

- When parking on a hill with wheel turned toward curb be sure car has come to complete stop before turning key to lock position.





Turning wheel after car has stopped winds up steering system which can result in a snap back of the steering wheel when the steering column lock is released. As a further precaution, never reach through the steering wheel for any reason.

When leaving your car unattended:

- Set parking brake
- Place automatic transmission selector in Park (Reverse for manual transmission)
- Turn key to LOCK position
- Remove key (the buzzer will remind you).
- Lock all doors.

## STARTING THE ENGINE

### AUTOMATIC TRANSMISSION MODELS

1. Apply the foot brake.
2. Place transmission selector in Park or 'N' (Park preferred). A starter safety switch prevents starter operation while the transmission selector is in any drive position. If it is necessary to re-start the engine with the car moving, place the selector lever in 'N'. Depress accelerator pedal and activate starter as outlined below for different conditions.

- Cold Engine** - Fully depress accelerator pedal and slowly release. With foot off the pedal, crank the engine by turning the ignition key to the Start position -- release when engine starts. If engine starts but fails to run repeat this procedure. When engine is running smoothly the idle speed may be reduced by slightly depressing the accelerator pedal and then slowly releasing.
- Warm Engine** - Depress accelerator pedal about halfway and hold while cranking the engine.   
**Extremely Cold Weather (Below 0 F. Or After Car Has Been Standing Idle Several Days)** Fully depress and release accelerator pedal two or three times before cranking the engine. With foot off the accelerator pedal, crank the engine by turning the key to the Start position and release when engine starts.

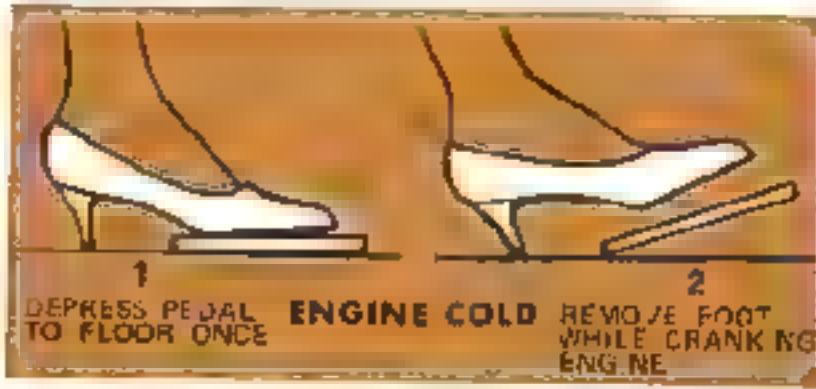
## STARTING THE ENGINE - MANUAL TRANSMISSION MODELS

Apply the parking brake

- Hold clutch pedal to the floor throughout the starting procedure. A safety interlock prevents starter operation when the clutch is not fully depressed. Select the reverse gear position before releasing the clutch pedal.

**NOTE** To prolong battery life, turn off fan and other unnecessary lights, and turn off heater. Leave a light on if cold weather.

- Open accelerator pedal and starter as outlined in step 3 under Automatic Transmission Models.



## STARTING HINTS

### FLOODING

In low temperature starting, if the engine fails to run after a first or second attempt, it may become flooded. Too much fuel may have been supplied during cranking. To deactivate the automatic choke and clear the engine of any excess fuel, fully depress the accelerator pedal while cranking to start.

### HOT STARTING

Starting a car with a hot engine requires sufficient Energizer battery capacity. Make certain your Buick's Energizer is in good condition. If a replacement Energizer is purchased, it should have at least the capacity rating of the original equipment unit.

### COLD WEATHER STARTING

Too heavy an engine or in cold weather or an out-of-tune engine can cause hard starting. Follow the viscosity recommendations in this manual. Tune-up specifications can be found under Specifications.

## AUTOMATIC TRANSMISSIONS

On Buicks equipped with steering column shift, the transmission shift control lever must be raised slightly before placing it in PARK (P) or Reverse (R).

On Buicks equipped with console shifts, the shifting or hand le must be depressed to move the lever into the ranges.



**"PARK"**—This position is to be used in conjunction with the foot-operated "Step-On" parking brake. This position must never be used when the car is in motion. Park is one of only two positions (the other is neutral) in which your Buick may be started.

**"R" (REVERSE)**—For backing. Bring car to complete stop before shifting into this range.

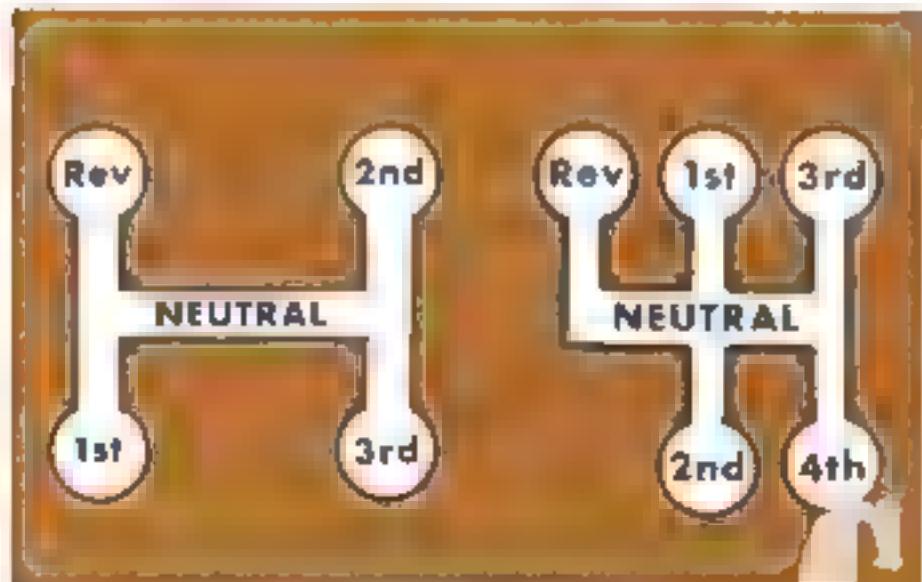
**"N" (NEUTRAL)**—This position must be used if towing the car and can be used when starting the engine.

**"D" (DRIVE)**—For all normal forward driving. This range allows for the acceleration and cruising adequate for all the most crucial driving situations. If additional speed is required for passing, press the accelerator to the floor. The resultant action will give you ample acceleration when you need it most.

**"L"**—This position may be selected when traveling down a moderate grade where slight braking action is desired without brake application. Return the selector lever to the drive position for resumption of normal driving.

**"1"**—This position may be selected for maximum braking down severe grades. The transmission selector lever must be placed into Drive range before the transmission will again upshift into direct drive.

## MANUAL TRANSMISSIONS 3-SPEED & 4-SPEED



The three and four speed transmissions are shifted through the standard "H" pattern as shown in the illustration. Before shifting into any gear, depress the clutch pedal and then shift into the desired gear. In first and reverse gears, release the clutch pedal slowly while simultaneously depressing the accelerator pedal. In second and third and fourth gears, release the clutch all the faster. This reduces the wear on the clutch and provides smoother operation.

### DO'S AND DON'TS

Do shift gears at moderate rate to allow time for transmission synchronizers to coordinate. "Speed Shifting" is harmful to transmission parts.

Do shut off engine and apply parking brake before leaving car.

Do start car only in neutral.

Do use second gear at slow speeds, (less than 30 miles per hour) when driving in stop and go traffic, for improved vehicle performance during acceleration and when descending steep hills.

Don't use second or third gear to accelerate from a stop.

Don't rest foot on clutch pedal while driving.

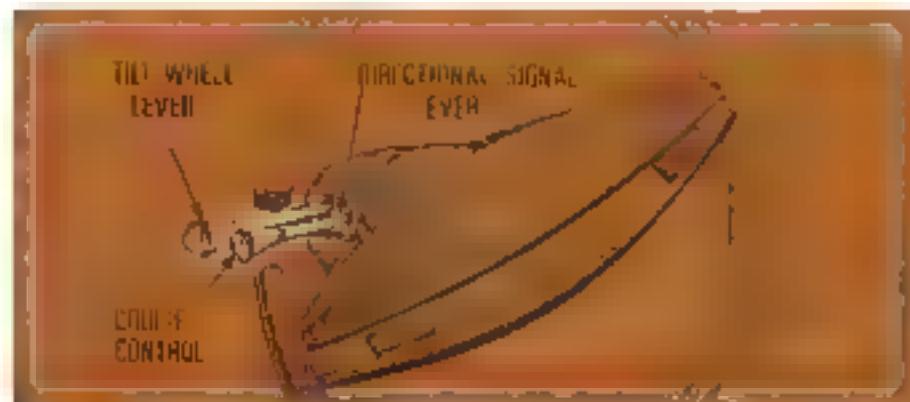
Don't coast in neutral.

**REMINDER:** Before descending a steep or long grade, down a mountain or hillside, reduce speed and shift into a lower gear. Use the brakes sparingly to prevent them from overheating and thus reducing brake effectiveness.

## COLD WEATHER NOTE

Engine and transmission oils do not flow as freely in cold weather so after the engine is started, let it idle for a minute or two before starting out. It's much easier on both engine and transmission.

## TURN SIGNAL AND LANE CHANGER



When turn signal lever is moved, lights on the rear of car flash to alert other motorists of your intentions. Green arrows below the lever also flash to indicate progress up a grade. Lights

If the indicator arrow remains on and does not flash, check for a defective signal lamp bulb. If the indicator fails to light when the lever is moved, check the fuse and indicator bulb.

## LANE CHANGE

Move turn signal lever to detent - down for left lane change, up for right. Hold lever in position until lane change is completed, then release lever.

## FULL TURN

Move lever to stop - down for left turn, up for right. Lever remains in position until turn is completed.

## CORNERING LIGHTS

Cornering lights (optional equipment) operate automatically (with headlights on) from the turn signal lever when the lever is moved to indicate a turn. Light comes on in the direction of the turn and remains on steadily until the turn is completed.

## POWER STEERING

Power steering assist is provided by a hydraulic pump driven by the engine. When the engine is not running or if the power steering drive belt breaks, the car can still be steered, but much greater steering effort will be required.

## STEERING WHEEL OPTION

To release lever and move steering wheel up or down to the left or right most comfortable and advantageous driving position.

## CRUISE CONTROL

**To Engage** — Accelerate your Buick to the desired speed

NOTE Lowest speed at which the system should be used is 40 miles per hour

Depress the engagement switch button located at the end of the directional signal lever, to the detent and release slowly. The cruise system is now engaged as shown by the illuminated cruise light.

**To Disengage** — Apply the brake pedal

or

Depress engagement button while decelerating car to 25 MPH

or

Turn off the ignition switch

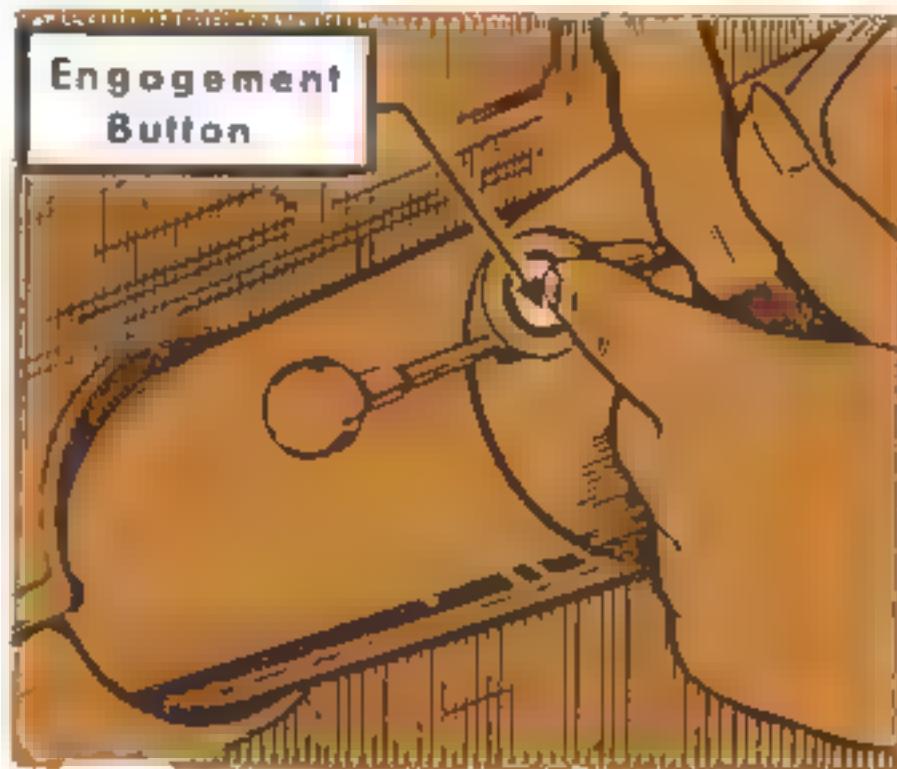
**To Reset at a Faster Car Speed** — Accelerate car to the desired higher speed. Depress the engagement button past the detent to the stop and release slowly.

**To Reset at a Slower Car Speed** — Depress the engagement switch button fully and HOLD. Allow car to decelerate. When car reaches the desired speed, release the engagement switch button slowly.

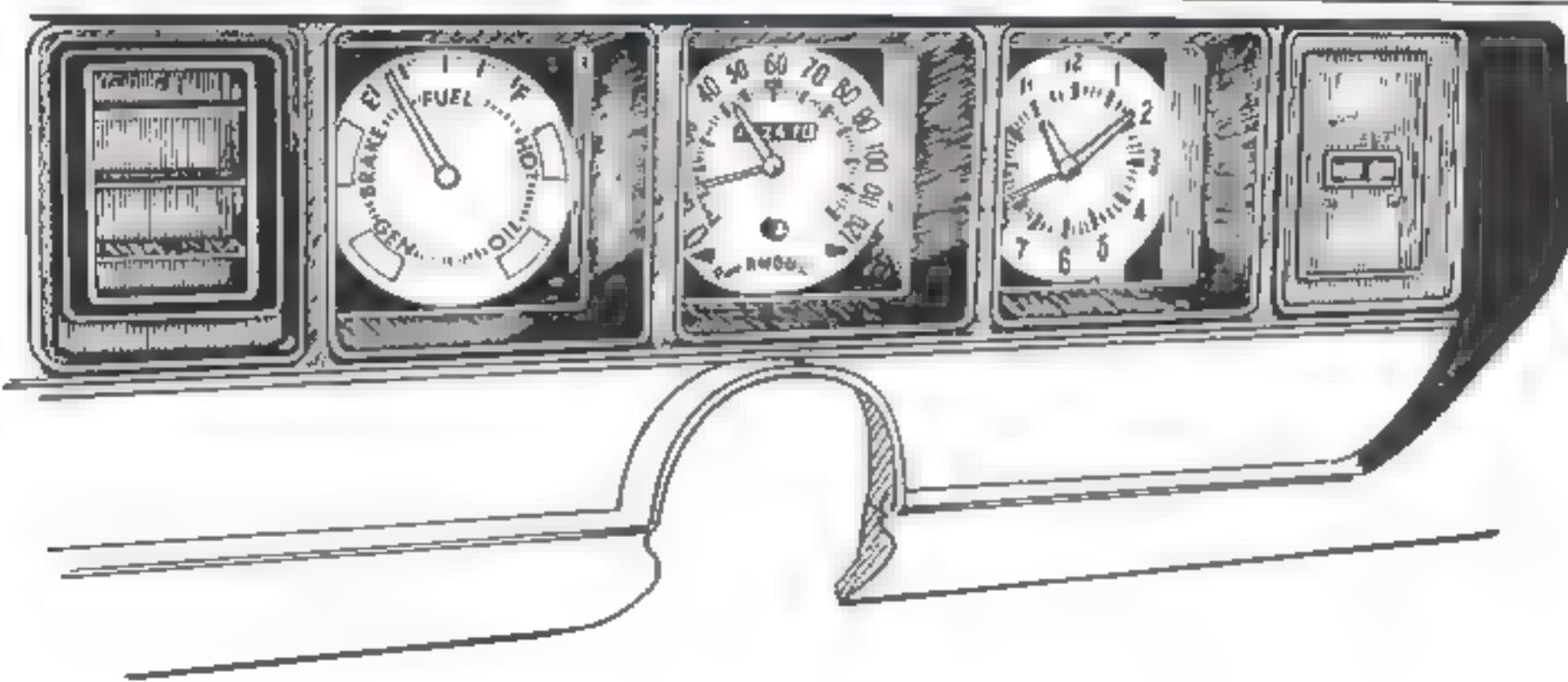
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**CAUTION** With the Cruise Control engaged, releasing the accelerator pedal does not permit engine speed to return to idle. Do not use the Cruise Control when conditions do not warrant maintaining a constant speed, such as in heavy or varying traffic, or on winding, slippery roads.

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# INSTRUMENT PANEL



## FUEL GAUGE

Operates only with the ignition switch on to indicate the approximate fuel level in the tank.

## OPTIONAL INSTRUMENT GAUGES

Optional gauges indicate oil pressure and coolant temperature by the gauge needle positions when the ignition switch is on.

## GENERATOR LIGHT

This light glows when the ignition switch is turned on but goes off when the engine starts. If it doesn't have your Buick dealer check the charging system or light bulbs.

If the Gen. light ever goes on with the engine running even a little, the charging system should be checked as soon as possible to prevent the generator from becoming discharged.

## OIL LIGHT

This light glows when the ignition switch is turned on but goes off when the engine is started. If the light glows while driving, the engine should be stopped immediately and the oil level checked.

## TEMPERATURE LIGHT

When the engine coolant becomes too hot, this red light glows. To check operation, turn the engine on.

make certain the light goes on while the engine is cranking. If the red light goes on at any other time, the cause should be determined as soon as possible.

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**NOTE:** The engine should not be idled with the transmission in Drive position longer than 10 minutes. When conditions require the engine to be idled for a long time, the transmission should be shifted to Park position.

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## BRAKE SYSTEM WARNING LIGHT

The service brake system is designed so that half of the brake system will provide some braking action in the event of a hydraulic leak in the other half of the system. If the warning light located adjacent to the fuel gauge glows when the ignition switch is turned on and after the brakes have been firmly applied it may indicate that there is a malfunction in one half of the brake hydraulic system. On cars equipped with drum brakes, the light will go out when foot is removed from brake pedal.

- As a check on bulb condition the light should glow with the parking brake applied and the ignition on. (The light is also a reminder to release parking brake)
- If the service red light does not come on during a brake application, the light bulb is bad.

- This warning light is not a substitute for the visual check of brake fluid level required as part of normal maintenance

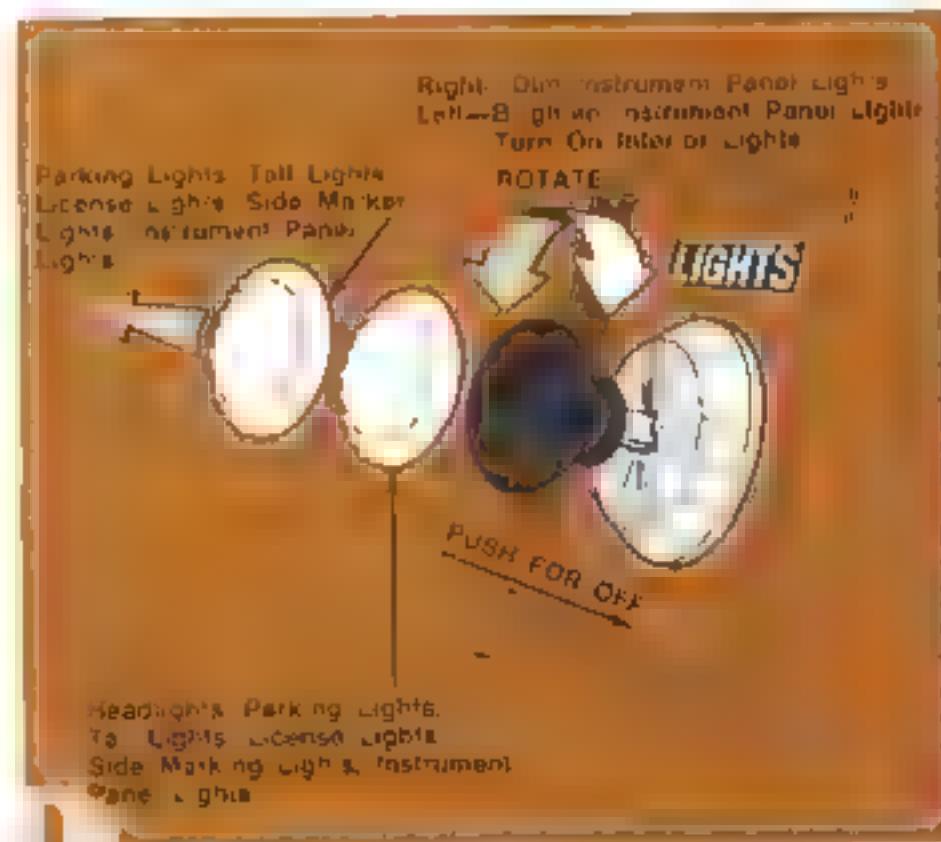
If the light glows red

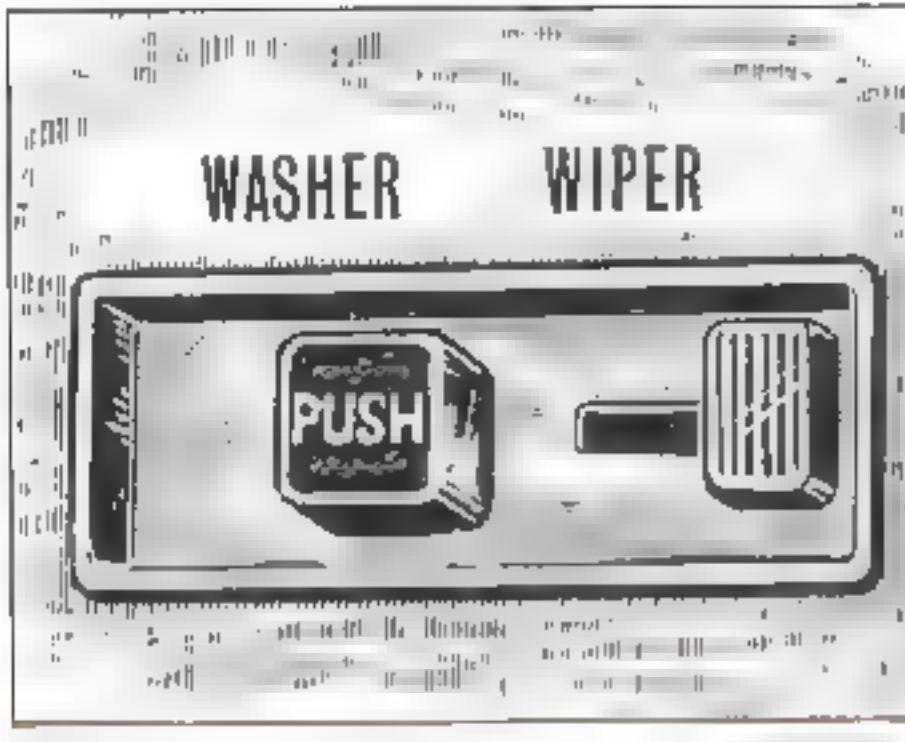
- The parking brake is not fully released or
- The service brake system is partially inoperative

What to do

- 1 Check that the parking brake is released
- 2 Put off the road and stop, carefully - remembering that
  - Stopping distances may be greater
  - Greater pedal effort may be required
  - Pedal travel may be greater
- 3 Try out brake operation by starting and stopping on road shoulder - then
  - If you judge such operation to be safe proceed cautiously at reduced speed to nearest dealer for repair
  - Have car towed to dealer for repair
  - Continued operation of the car in this condition is dangerous

## HEADLIGHTS





**NOTE:** Operate washer occasionally to maintain pump prime.

- Check washer fluid level regularly - do it frequently when the weather is bad
- Use GM OPTIKEEN to prevent freezing - it helps to provide better cleaning
- Do not use radiator antifreeze on wipers - it could cause paint damage

- In cold weather, warm the windshield with defrosters before using washer - to help prevent icing that may seriously obscure vision.

## WINDSHIELD DEFROSTING & DEFOGGING

- Clear snow and ice from hood and air inlet in front of windshield to improve heater and defroster efficiency and reduce the probability of fogging on inside of windshield
- Operate blower on 'HIGH' for a few seconds before moving the vehicle to clear the intake ducts of snow
- Clear windshield, rear window, outside mirrors and all side windows of ice and snow before driving vehicle.

## REAR WINDOW DEFOGGER

This unit draws in air from the passenger compartment and directs it against the back window to remove frost or moisture. (Its blower has a two-speed control switch on the instrument panel.)

## VENTILATION

- 1971 Buicks have varied systems of passenger compartment fresh air ventilation: door vent pane, instrument panel lower cowling ventilation integral with the air cleaner, or depending on the model or installed options, by kick panel. Use one or a combination of these.

## HEATER AND DEFROSTER OPERATION

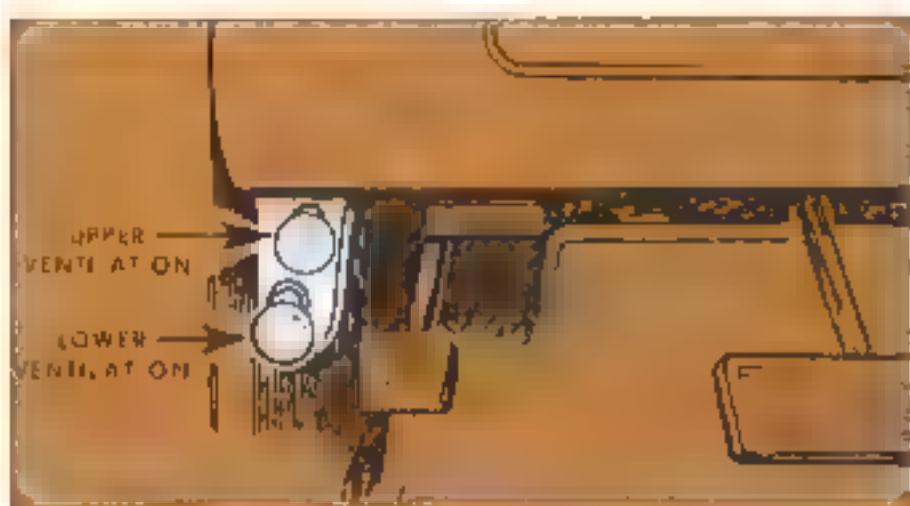
### 1. Position upper lever

**HEATER** — For passenger compartment heat outside air is introduced and directed through the floor heater outlets

**DEFICE** — For windshield defrosting or deicing. Outside air is introduced and directed through the windshield defroster outlets

### 2. Move TEMPERATURE lever to the right to warm the incoming air. The farther to the right it is moved, the warmer the air

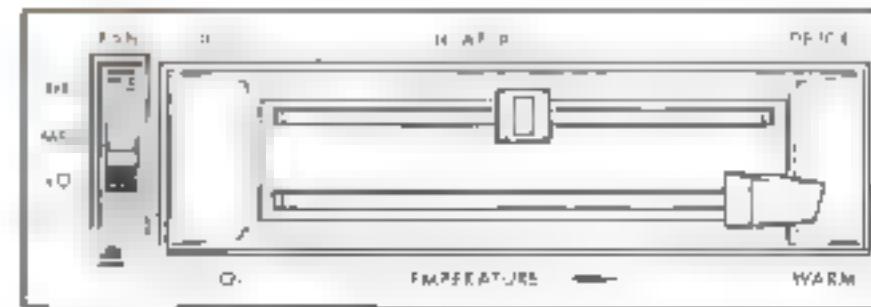
### 3. Turn on the 'FAN' switch to increase air flow through the outlets. One of three blower speeds may be selected.



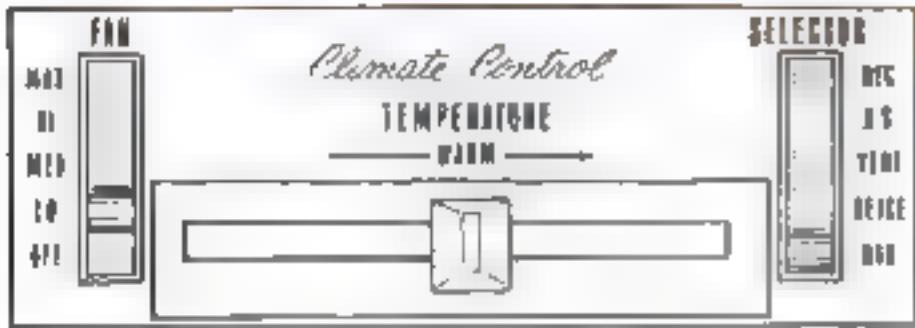
Cars equipped with door ventipanes will have a cowl vent push-pull knob under each extremity of the instrument panel. Opening the door ventipanes will help increase air flow through the cowl vents.

Some models have an additional knob above the cowl vent knobs to control ventilation air flow through the instrument panel outlets. A further option is a blower system for the upper ventilation to increase air flow in slow city traffic or when driving. The blowers are controlled by a high-low vent switch located on the instrument panel above the radio.

See Engine Exhaust Gas Caution, page 157, in this section.



## CLIMATE CONTROL OPERATION



### 1 Position SELECTOR switch as desired

**REC** — For maximum cooling. Outside air is cooled and directed through the air conditioner outlets in the instrument panel. Also a major portion of the already cooled air in the car is recirculated through the air conditioner for additional cooling.

**A/C** — For normal cooling. Outside air only is cooled and directed through the air conditioner outlets.

**VENT** — For fresh air ventilation. Outside air is directed through the air conditioner outlets. This is not cooled by the air conditioner at ~~unless~~ it is to be warmed. If desired, by following Step 2.

There is no lower cowl vent on or on non-conditioned cars.

**DE-ICE** — For windshield defrosting or deicing—Outside air is introduced and directed through the windshield defroster outlets. See Step 2 for heating the air.

**HTR** — For passenger compartment heat—Outside air is introduced through the floor heater outlets. See Step 2 for heating the air.

- 2 Move TEMPERATURE lever to the right to warm the incoming air. The farther to the right it is moved, the warmer the air.
- 3 Turn on the FAN switch. One of four lower speeds may be selected.

---

**NOTE** The air conditioner removes humidity from the air in the passenger compartment. Thus on cool, humid days you may wish to use a blend of heated and air conditioned air. This can be done by positioning the SELECTOR switch to REC or A/C and moving the TEMPERATURE lever towards WARM.

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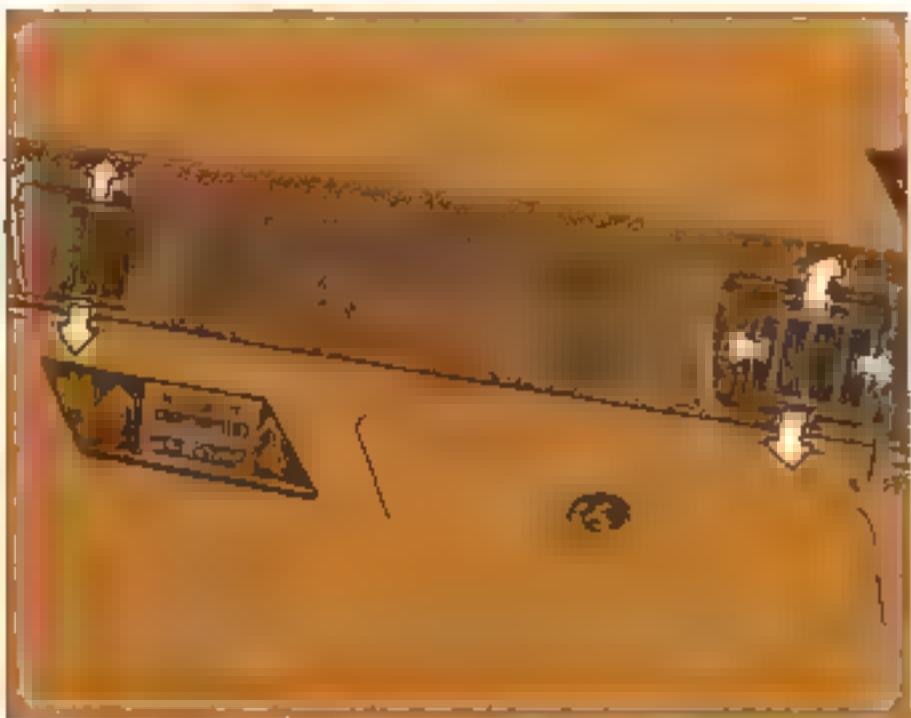
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**CAUTION:** Operate in either 'REC' or 'A/C' position for 30 seconds before switching to DE-ICE. This will remove humid air from the system and minimize rapid frosting of the glass which can occur if humid air is blown on a cold windshield.

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## ADJUSTMENT OF AIR CONDITIONER OUTLETS

Direct air flow for most comfort—



**Center Outlet** vertical adjustment—shut off air by rotating vanes to extreme upward position

**Side Outlets** both vertical & horizontal adjustment—reduce, increase or shut off air flow by rotating or off control

## SUGGESTIONS FOR AIR CONDITIONER OPERATION

- For maximum cooling close all windows & open air conditioner outlets
- After parking in sun open windows for short period to expell hot air
- To increase rear seat cooling direct center outlets straight back & reduce air flow out of front, side outlets

## CARE OF THE BUICK CLIMATE CONTROL

- Have Buick dealer check Climate Control operation every Spring
- If parked for length of time with air conditioner operating place transmission shift lever in Park or N to avoid engine overheating

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**NOTE:** Your Buick Climate Control dehumidifies as it cools. Therefore, don't be alarmed about water dripping from the rear of your Buick when your Air Conditioner is operating just after it has been shut off. It is probably coming from the Air Conditioner drain hose.

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## RADIOS

### SONOMATIC RADIO

#### PRESELECTING STATIONS

To preselect your five favorite stations, proceed as follows:

1. Turn on radio
2. Pull out pushbutton until it stops.
3. Manually tune to desired station
4. Fully depress pushbutton

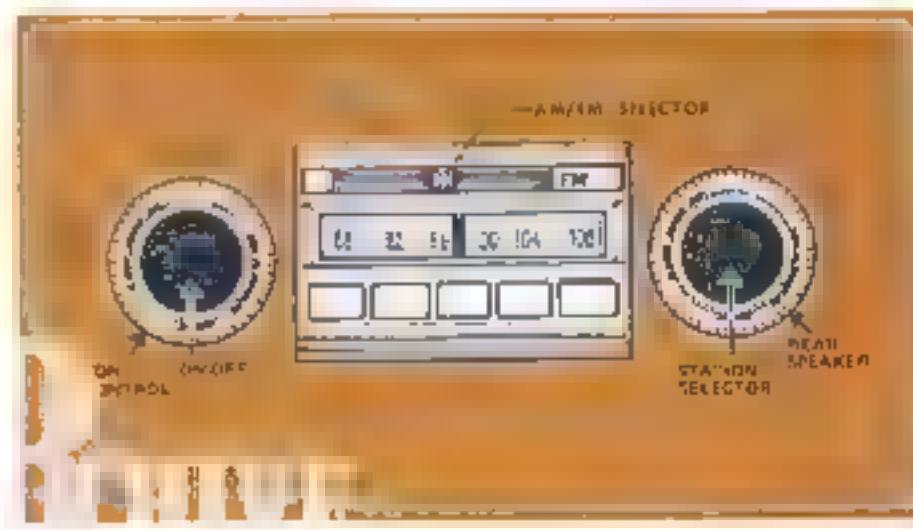
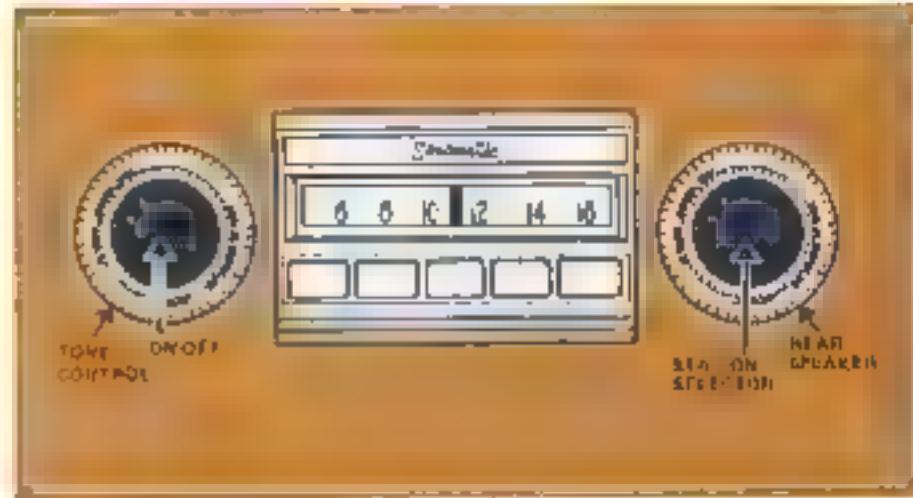
#### SUGGESTION:

If the program sounds shrill or distorted, a correction can generally be effected by adjusting the tuning knob slightly. Tune set so that the low tones are heard best since low tones are more affected by tuning than high tones.

### AM-FM RADIO

This optional radio offers both AM and FM reception. Although FM broadcasting has the advantage of relative freedom from static and a greater fidelity of tone reception, limitations should be recognized. Reception is normally limited to 25 miles from the stations. Large objects such as hills or buildings can reflect or cancel signals.

In fringe areas where FM reception is weak, it is possible to may fluctuate or vary up and down and static may be picked up by your FM radio. When this condition is encountered, it is suggested to switch the radio to a stronger station.



To set the radio for AM or FM reception, move the AM-FM selector bar to either the right or left. The five pushbuttons may be set for either AM or FM stations. See method of preselecting these stations under Sonomatic Radio.

## STEREO TAPE PLAYER

The Buick Stereo Tape Unit uses the readily available standard eight track stereo tape cartridge. The Stereo Tape Unit is turned on by inserting a cartridge through the tape door with label side up and open end first. It is turned off by withdrawing the cartridge part way. A pilot light on the unit indicates when the player is in operation. The radio need not be turned on—it is on when the stereo tape cartridge is engaged. The radio will turn off automatically.

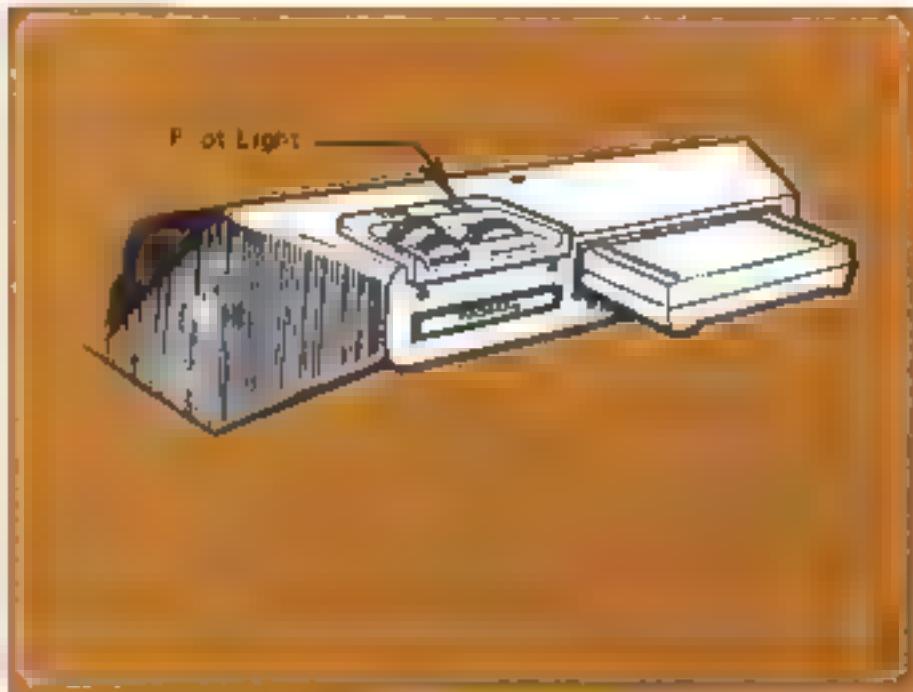
## CONTROLS

**Program**—Depressing the Program bar selects one of the four programs. However transfer of programs is automatic as the tape is played.

**Balance**—Turning this control regulates the volume level of the individual speakers increasing one and decreasing the other.

**Volume**—Turning this control regulates the volume by the speakers.

**Tone**—Turning this control provides for the selection of a predominance of bass or treble on.



Tape cartridges should always be removed from the player when not in use and stored where they are not exposed to heat or direct sunlight. Also longer tape life and better performance can be expected from the Buick Stereo Tape Unit if the cartridge is removed from the player prior to turning off the automobile ignition switch.

Foreign deposits may build up in the tape player. Therefore it is recommended that a Head Cleaning Tape be used after every 5 hours of player operation.

# FLOOR CONTROLS



## BRAKING SYSTEMS

**CAUTION** Driving through deep water may affect brake performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until normal performance returns to normal.

### POWER BRAKES

- Cars with power brakes can make two or more brake stops using reserve power assist after the engine is off.
- When reserve power is exhausted, the vehicle can still be stopped by applying greater force to the pedal.

### AUTOMATIC BRAKE ADJUSTERS

- Brakes on this car are self-adjusting, designed to eliminate periodic brake adjustments.
- Drum brake adjustment is made automatically as the brakes are applied while car is moving backwards.
- Disc brake adjustment is made automatically with each brake application.
- If excess brake pedal travel develops, drive alternately backward and forward several times and apply brakes firmly in each direction.
- See your dealer if normal pedal travel is not restored. Excessive or rapid increase in pedal travel, which could indicate other brake trouble.

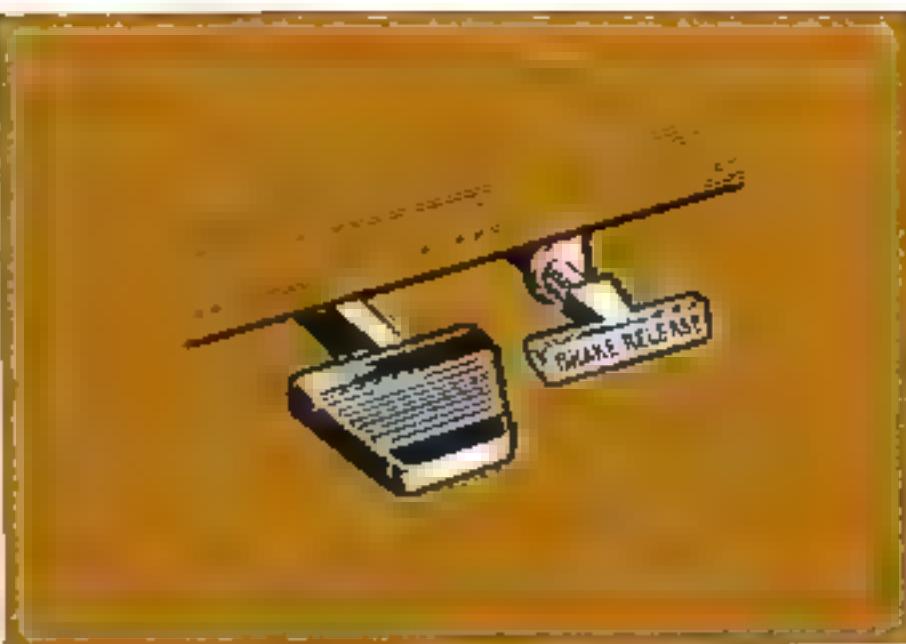
**REMINDER:** Brake pedal travel should not be obstructed by improper floor mats or other interfering material under the pedal.

**NOTE:** "Riding the brake" by resting your foot on the brake pedal when not intending to brake can cause abnormally high brake temperatures, excessive lining wear and possible damage to the brakes.

**REMINDER:** Brake linings should be inspected for wear by a qualified mechanic at least once a year or every 12,000 miles, whichever occurs first. More frequent inspections should be made if driving conditions in your area, such as traffic or terrain, or techniques of individual drivers result in frequent brake applications. Your Buick dealer is best qualified to advise you as to how often this inspection should be performed. When brakes require relining, use those Genuine General Motors Parts specifically recommended for your car, and Delco fluid as required.

## PARKING BRAKE

- To set parking brake, fully depress foot pedal at far left side
- For maximum holding power, press small brake pedal with the other foot at the same time



- To release parking brake, pull 'BRAKE RELEASE' lever on lower left instrument panel
- Never drive car with parking brake set as this may overheat or otherwise damage rear brakes.

## HEADLIGHT BEAM SWITCH

The selection of upper or lower headlight beam is controlled by a foot switch located on the floor near the left foot position. When on upper beam, a small red light in the instrument panel will warn that your headlights may be brighter than the driving conditions.

# OTHER CONTROLS and FEATURES



## SIDE MARKER LAMPS

These external lamps, located on the side of the front and rear fenders, light continuously when the headlights are on to provide better night time visibility.

## MIRROR MAP LIGHT

For added convenience an optional mirror map light is available. Its light switch is in the lower edge of the rearview mirror and operates only with the ignition switch.

## POSITIVE TRACTION DIFFERENTIAL

The optional Positive Traction Differential provides additional traction on snow, ice, mud, sand and gravel, particularly when one drive wheel is on a surface providing poor traction.

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**CAUTION:** On cars equipped with a Positive Traction Differential, never run the engine with one drive wheel on the ground, since the car may drive through the wheel remaining on the ground.

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**CAUTION:** As with any vehicle, care should be taken to avoid sudden accelerations when both drive wheels are on a slippery surface. This could cause both drive wheels to spin, and allow the vehicle to slide sideways on the crowned surface of a road or in a turn.

## AUTOMATIC LEVEL CONTROL

This option automatically maintains a level position of the car regardless of load changes so that steering is normal and headlamp beam position remains as it should.

No manipulations or adjustments are required merely load or unload your Buick and this Automatic Level Control feature will compensate for the change in weight.

## SPORTWAGON

### TAILGATE WINDOW

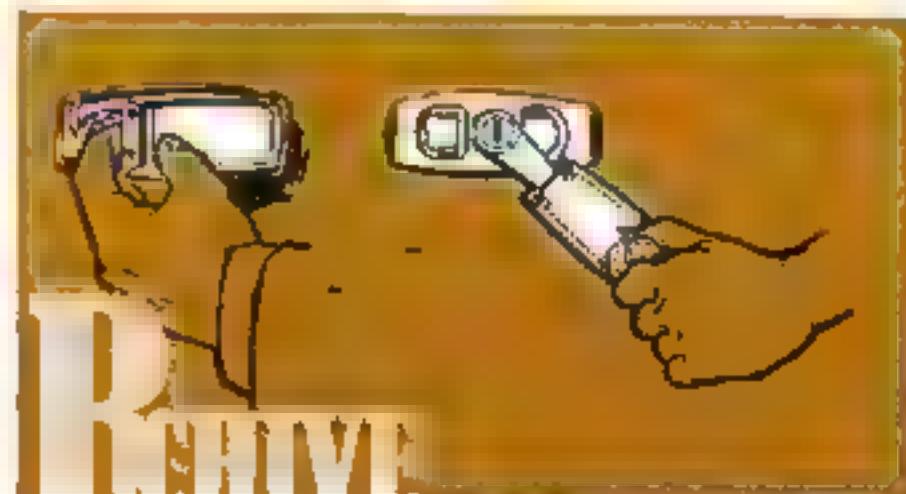
**CAUTION:** The tailgate window should be closed while driving to help prevent inadvertently drawing exhaust gases into the car. (see Engine Exhaust Gas Control)

If for some reason it is necessary to drive with the tailgate window open, the following procedure should be observed:

- Close all other windows.
- Adjust heating or cooling system to force outside air into car with blower set at high speed, and controls set in any position except "REC PC" or "OFF".
- On cars equipped with outside air vents under or in the instrument panel, open vents fully.

### MANUAL WINDOW

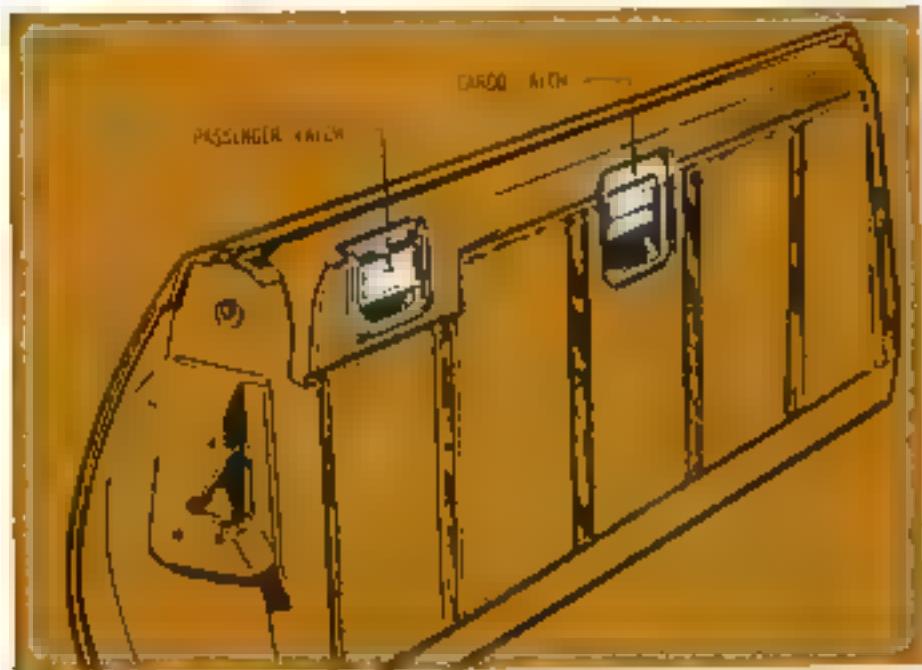
- Pull out control handle to expose crank.
- Crank counterclockwise to lower window. (If handle freewheels, turn lock cylinder with square key to unlock.)
- After window has been lowered or raised to the desired position, reverse the direction of the handle to the horizontal position and fold in handle.



## ELECTRIC WINDOW

- Raise or lower from outside with square key in tailgate lock
- Raise or lower from inside with "Accessory" switch.

## TAILGATE



- Lower window all the way
- Reach over top of tailgate and pull on tailgate latch to open.
- Dual Action tailgate as we'll be able either for cargo or to swing open for passing.

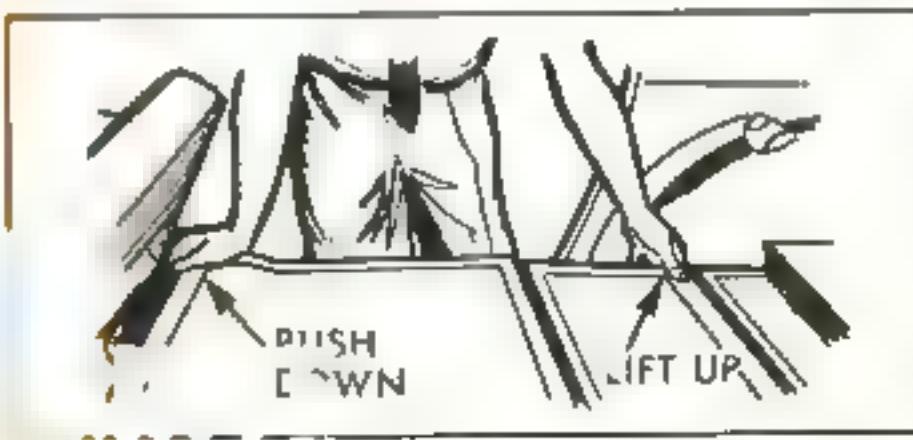
## OPERATION OF FOLDING SEATS

### REAR SEAT

**Lowering Seat**—The release is located on the right side of the seat back. Pull lock handle and pull seat back forward and downward—push down until it locks into position.

**Raising Seat**—Push down on front edge of seat back to remove tension of hinged door panels. Lift up on filler panel. Lift seat back upward and rearward until it locks in position.

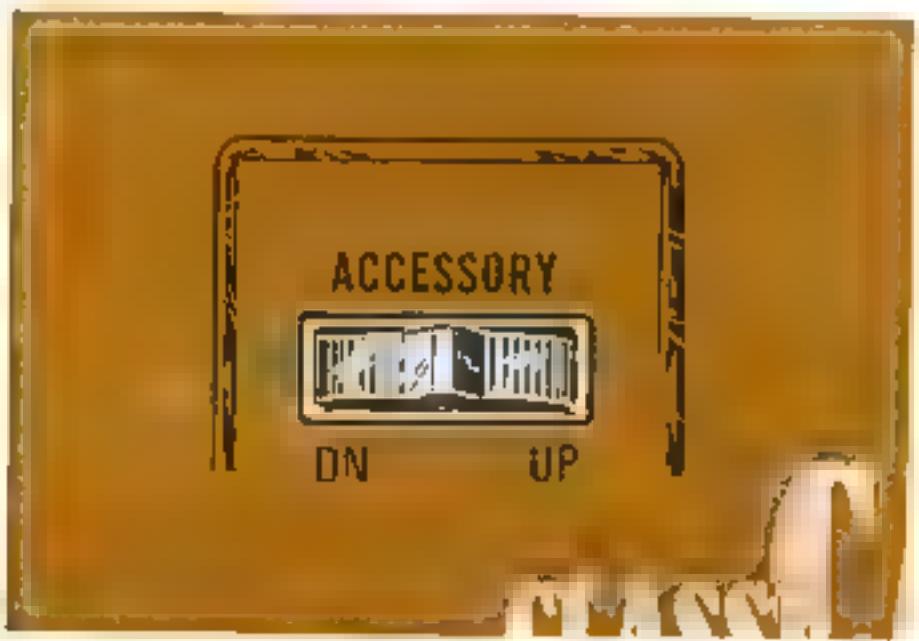
**CAUTION:** When using your Sportwagon to transport luggage or other cargo, it is recommended that the articles be secured in place. This precaution will help prevent such items from becoming projectiles in the event of a sudden stop or collision. Cargo loads, whether inside or on the roof should be distributed as far forward as possible for better vehicle handling.



## OPERATING THE CONVERTIBLE FOLDING TOP

**IMPORTANT** Do not attempt to lower the top when the temperature is below 40° fahrenheit. Prior to lowering or raising the top, the car must be completely stopped and the sunshades turned down. Also, prior to lowering the top, make certain the top material is thoroughly dry and the top well is free of any stored items.

To lower the top, the locking handles, which are located at the front of the side rails, must be rotated inboard to release the lock hook levers from the strikers which are located at the outboard ends of the windshield header.



(The locking handles must remain in open position until the top is again locked to the windshield header) Actuate the power control switch until the top assembly is approximately two (2) feet from the fully lowered position.

The top material and pads must be gently pulled rearward from between the operating arms of the top. The power switch may then be actuated to lower the top to its full down position.

To raise the top, actuate the power control switch until the top rests on the windshield header and the guide pins on the top outer ends engage the windshield header strikers.

To lock the top, first rotate the left side locking handle outboard and then the right side locking handle and insure proper engagement of the lock hooks with the strikers.

**IMPORTANT:** The top assembly must be securely locked to the windshield header prior to movement of car.

## INSTALLING THE BOOT

Remove the boot, which is stored in a plastic container in the rear compartment, and install by grasping the forward end of the boot and slide the welt of the boot into the retainer located on the top of the rear seat back panel. Position the boot over the lowered top and engage the snap fasteners onto the quarter trim fastener sites. The rear and side portions of the boot are then installed by starting at the center and pulling the boot rearward to fit it, a plastic retainer under the belt line.

## CARE OF FOLDING TOP AND REAR WINDOW

The folding top material will retain its luster and bright appearance with frequent washing using neutral soap suds, lukewarm water and a soft bristle brush. In the event heavy soilage or persistent stains are encountered, cleaning with a mild foaming cleanser, lukewarm water and a soft bristle brush will normally be sufficient. Regardless which cleaning method is used, a generous amount of clean rinse water must be applied to insure complete removal of soap suds from the top material and all adjacent body panels.

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***IMPORTANT: The folding top should never be subjected to volatile cleaners or household bleaches. Also, after cleaning is completed, the top material must be allowed to thoroughly dry before it is lowered.***

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The rear window in the back curtain may be cleaned in the same manner as all body glass. Volatile cleaning agents must be avoided as these liquids could have a deteriorating effect should they come in contact with the back curtains or any painted finish.

Your 1971 Buick not only conforms to U.S. Federal Motor Vehicle Safety Standards established by the National Highway Safety Bureau, but also includes other important GM Motors safety features. Even with these safety features, however, continued safety and avoidance of accidents depends greatly upon you as well as the driver of the vehicle.

This section discusses the various pump types and systems of your choice that is available to keep your boat pump system safe and dependable year round. Some checks should be made by your dealer or marine station, and can be done conveniently while you are in the boat with your marine technician. It can be made easily by owners.

## CHECKS TO BE PERFORMED BY YOUR DEALER OR SERVICE STATION

As a service reminder to owners, all 1971 General Motors passenger cars are equipped with a "Vehicle Safety Maintenance Schedule" on the inside of the glove box door as illustrated on page 37.

The schedule lists the various safety checks to be performed at regularly scheduled intervals, as well as some of the other important vehicle maintenance requirements. You are urged to check off each item on the schedule after the operation has been performed. Following are further details on the safety check items.

## CHECKS TO BE MADE AT OIL CHANGE INTERVALS (4 MONTHS OR 6,000 MILES, WHICHEVER OCCURS FIRST)

**Brake and Power Steering Lines and Hoses** -- Check for proper attachment, leaks, cracks, chafing, deterioration, etc. Any questionable parts noted should be replaced or repaired immediately.

**Fluid Levels** -- Check level of fluid in brake master cylinder, power steering pump, radiator (cooling system) and transmission. Any significant loss that a malfunction is developing in the

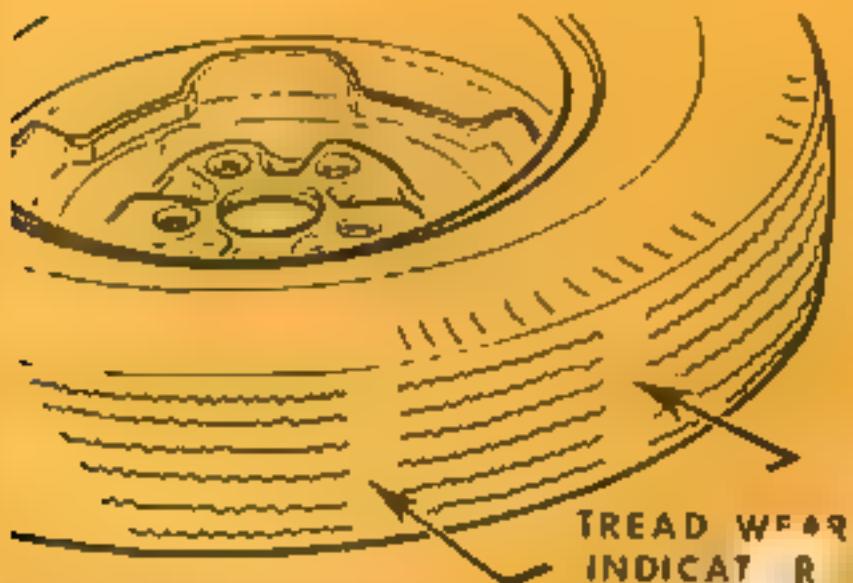
corrective action should be taken immediately. On cars with disc brakes a low fluid level in the front brake master cylinder reservoir could also be an indicator that disc brake pads need replacing.

**Front and Rear Suspension and Steering System** -- Check for damaged or missing parts, or parts showing visible signs of excessive wear or lack of lubrication. Questionable parts should be replaced by a qualified mechanic without delay.

**Exhaust System** - Check complete exhaust system and nearby body areas and trunk lid for broken, damaged, missing or mispositioned parts, open seams, holes, loose connections or other deterioration which could permit exhaust fumes to seep into the trunk or passenger compartment. Any defects should be corrected immediately. To help insure continued integrity exhaust system pipes and resonators forward of the muffler must be replaced whenever a new muffler is installed.

**Tires and Wheels** -- Check tires for excessive wear, nails, cuts or other damage. Make certain wheels are not bent and wheel nuts are tight. Uneven or abnormal tire wear may indicate the need for alignment service. Check tire inflation pressure at least monthly, or oftener if daily visual inspection indicates the need

The original equipment tires on your Buick Regal contain built-in tread wear indicators to assist you in determining when your tires have worn to the point of needing replacement. These indicators will appear as 1/2 inch wide bands when the tread depth is 1/16 inch or less. When the indicators appear in two or more adjacent 1/4 curves, tire replacement due to tread wear is recommended.



**Drive Belts** Check fan and accessory drive belts for cracks, wear and tension. Adjust as necessary.

## CHECKS TO BE MADE AT 12 MONTHS OR 12,000 MILES (WHICHEVER OCCURS FIRST)

**Brake Lining and Parking Brake** -- Check linings, disc brake pads as well as the other internal brake components at each wheel drum, rollers, wheel cylinders etc. More frequent checks should be made if driving conditions and habits result in frequent brake application. Parking brake adjustment should also be checked whenever brake linings are checked.

**Trans. Leakage** -- Check for damage to or missing parts, fittings, etc. or binding. Any anomalies should be corrected without delay by a competent mechanic.

**Headlights** -- Check for proper aim. Correct as necessary. More frequent checks should be made if oncoming motorists signal when you are already using your low beams or if illumination of the road ahead seems inadequate.

For further details on the engine and transmission items listed or the Vehicle Safety Maintenance Schedule, and for other recommended maintenance refer to the Service and Maintenance and Air Pollution Control Sections of this manual.

## CHECKS TO BE PERFORMED BY OWNER

listed below are the safety checks that should be made by the owner. These checks should be made at least every 4 months or 6,000 miles whichever occurs first, or often when so indicated. Any difficulties should be brought to the attention of your dealer or service station, so the advice of a qualified mechanic is available regarding the need for repairs or replacements.

**Anti Theft Lock** -- Check for proper operation by attempting to turn key in LOCK position in the various transmission gears with car stationary. Key should turn to LOCK position only when transmission is controlled in PARK on automatic transmission models or in REVERSE on manual transmission models.

**Seat Belts** -- Check lap and shoulder belts as well as buckles, structure and anchors for secure attachment at all times -- never bending anchor.

**Windshield Wipers and Washers** -- Check operation and alignment of wiper blades. Check amount and direction of fluid sprayed by washers during use.

**Defrosters** -- Check performance by turning controls to DE-ICE and noting amount of air directed against the windshield.

**Wheel Alignment and Balance** -- In addition to abnormal tire wear the need for wheel alignment can be indicated by a pull to the right or left when driving on a straight level road. The need for wheel balancing may be indicated by vibration when at the steering wheel while driving.

**Parking Brake and Park Mechanism** -- Check parking brake holding ability by parking on a fairly steep hill and restraining the vehicle with the parking brake only. On cars with automatic transmission check the holding ability of the "Park" mechanism by releasing clutch after the transmission selector lever has been placed in the "Park" position.

**Lights** -- Check license plate lights, side marker lights, headlamps, parking lamps, tail lamps, brake lights, turn signals, back lamps and hazard warning flashers. Have someone observe operation of each light while you activate the controls.

**Starter Safety Switch** -- A simple transmission check (CAUTION: Before making the following check be sure to have a clear distance ahead and behind the car. Set the parking brake and firmly apply the foot brake. Do not depress accelerator pedal. Use prepared test light on switch immediately if engine should start).

Check automatic transmission safety operation by placing the transmission in each of the driving gears while attempting to start the engine. The selector should operate only in the "Park" or Neutral ("N" positions).

**Starter Interlock** -- To check a manual transmission equipped car depress the clutch halfway, place the transmission in neutral, and attempt to start. The starter should operate only when clutch is fully depressed.

**Transmission Shift Indicator** Check to be sure shift indicator accurately indicates the shift position selected

**Horn** -- Blow the horn occasionally to be sure that it works

**Seat Back Latches** Check to see that seat back latches are holding by pulling forward on the seatback top

**Rearview Mirrors and Sun Visors** -- Check that friction arms are properly adjusted so mirrors and sun visors stay in the selected position.

**Door Latches** -- Check for positive closing, latching and locking.

**Hood Latches** -- Check to make sure hood closes firmly by lifting on the hood after each closing. Check also for broken, damaged or missing parts which might prevent secure latching.

**Fluid Leaks** -- Check for fuel, water, oil or other fluid leaks by observing the ground beneath the vehicle after it has been parked for awhile. (Water dripping from air conditioning system after use is normal.) If gasoline fumes are noticed at any time, the cause should be determined and corrected without delay because of the possibility of fire.

**Exhaust Systems** See engine exhaust gas caution at beginning of "Starting and Operating" Section of Manual for suggested driver observations and checks

**Head Restraints** Check that head restraints adjust properly in the up detent position and that no components are missing or loose.

# IN CASE OF EMERGENCY

## FOUR WAY HAZARD WARNING FLASHER

- Use the hazard flasher to warn other drivers any time your vehicle becomes a traffic hazard day or night.
- Avoid stopping on the roadway unless absolutely necessary.
- Turn on the hazard warning flasher with one hand on top of it or off by pushing it on the button located just below the steering wheel.
- If the hazard warning switch is depressed the lights will not flash but will glow continuously instead.
- To turn off the flasher push the button outward.



## EMERGENCY STARTING

- Never tow the car to start because the surge to ward when the engine starts could cause a collision with the tow vehicle.
- Engines in vehicles with automatic transmissions cannot be started by pushing the car.
- To start the car after thenergizer battery is discharged use a single 4 x 5 dry battery or Energizer of the same voltage as the discharged battery with suitable jumper cables.
- Make connections as detailed below.

**CAUTION** Never expose battery to open flame or electric spark - battery action generates explosive hydrogen gas. Don't allow battery fluid to contact skin, eyes, fabrics, or painted surfaces - fluid is a sulfuric acid solution. Wear eye protection when working with battery.

## JUMP STARTING WITH AUXILIARY (BOOSTER) BATTERY

If booster battery is part of another vehicle's electrical system booster should be treated carefully when using it to jump start.

- Turn off exactly the procedure outlined below being careful not to cause sparks.

• If the car has an automatic transmission, place it in "NEUTRAL" for manual transmission,

- 2 Attach one end of one jumper cable to the positive terminal of the booster battery (denoted by '+' or 'P' on the battery case post or clamp) and the other end of same cable to positive terminal of discharged battery
- 3 Attach one end of the remaining cable to negative terminal (or 'N') of booster battery and finally to negative terminal of discharged battery taking care that jumper clamps do not contact each other Reverse this sequence exactly when removing the jumper cables

**CAUTION:** Any procedure other than the above could result in personal injury caused by electrolyte squirting out the battery vents damage or injury due to battery explosion, and/or damage to the charging system of the booster vehicle's or immobilized vehicle's charging system. Do not attempt to jump start a car having a frozen battery because the battery may explode. If a frozen battery is suspected, open and examine all fill vents on the battery. If ice can be seen, or the electrolyte fluid cannot be seen, do not attempt to start with jumper cables.

## ENGINE COOLANT

### **CAUTION:**

- To avoid the danger of being burned, do not remove radiator cap while engine and radiator are still hot because the cooling system will blow out cooling fluid and steam under pressure.
- Do not remove radiator cap to check engine coolant level check coolant visually at the front of the coolant reservoir

- Proper coolant level at normal operating temperature is between the "FULL" and "ADD" marks on the reservoir
- Coolant should be added only to the reservoir (see "Service & Maintenance" section for details)

## ROCKING THE CAR

If it becomes necessary to rock the car to free it from sand, mud or snow, move the selector lever from D to R in a repeat pattern while simultaneously applying moderate pressure to the accelerator. Do not race engine. Avoid spinning wheels when trying to free the car.

## TOWING

Proper lifting or lowering equipment is necessary to prevent damage to the vehicle during any towing operation. Detailed towing information is available at your dealer and has been provided to tow truck operators responsible for movement of disabled or locked vehicles. State and local laws applicable to vehicles in tow must also be followed.

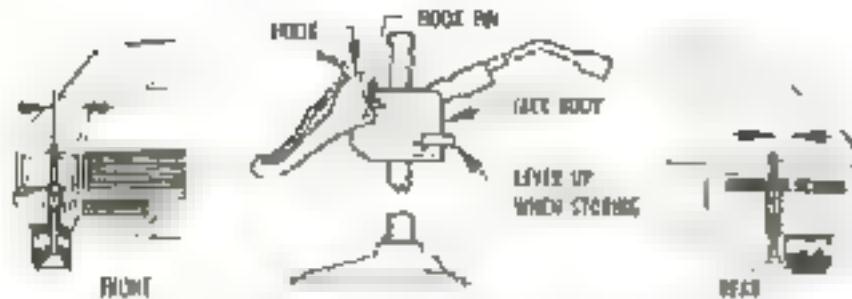
Your Buick may be towed on a four wheel's. at speeds of less than 35 MPH for distances up to 50 miles provided driveline, axle and transmission are otherwise normally operable. For such towing parking brake must be released and transmission must be in neutral (ignition lock to the ON or OFF position). Attachments must be to main structural members of the car not to bumpers or brackets. Safety chains or cables should be used. Remember that parking brake, steering assist will not be available when the car is in tow.

## TIRE CHANGING

**CAUTION:** Before jacking up the car, firmly set the parking brake, place the automatic transmission in "PARK" ("REVERSE" for manual transmission) and block the wheel diagonally opposite from the jack position. Stand clear of, and never get beneath the car when it is supported only by a jack. Always use safety stands to support the car if necessary to get underneath. On cars equipped with a Positive Traction Differential do not run the engine with one drive wheel off the ground since the car may drive through wheel remaining on the ground. Always replace jacking equipment and spare tire in proper stowage position.

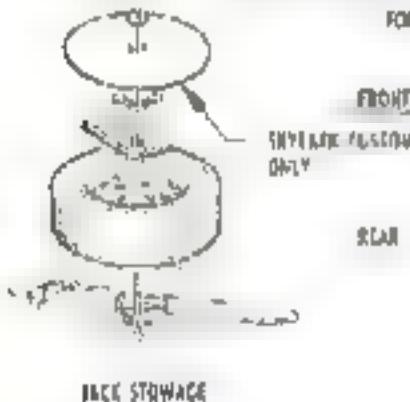
1. From the luggage compartment remove spare wheel and tire, jack, jack base and jack handle
2. Pry off wheel cover using flat end of combination jack handle and wheel nut wrench. Exercise extra care in removing cover to prevent damage to its outer lip
3. Loosen, but do not remove, wheel nuts with wheel nut wrench
4. Assemble jack into jack base and place jack control lever in the 'up' position. Place jack as shown or on the rabe affixed to the inside of the trunk lid and move handle up and down to raise jack into proper position on the bumper.
5. Raise car off ground until wheel is clear. Check stability of car on jack and then remove wheel nuts and wheel.
6. Install spare wheel and install wheel nuts finger tight.
7. Place jack control lever in down position and lower wheel until it just touches the ground. Fully tighten wheel nuts. Lower car and remove jack. Carefully install wheel cover.

**NOTE:** Sportwagons equipped with rear window defroster be certain to reconnect defroster flexible hose to car when reinstalling spare tire cover.



**CAUTION: SET PARKING BRAKE AND BLOCK THE WHEEL  
DIAGONALLY OPPOSITE THE JACK POSITION**

BEFORE JACKING FRONT OR REAR, MAKE CERTAIN LIFTING HORN PIN IS SLOTTED IN JACK BODY. DO NOT GO UNDER CAR WHEN CAR IS SUPPORTED BY JACK ALONE.



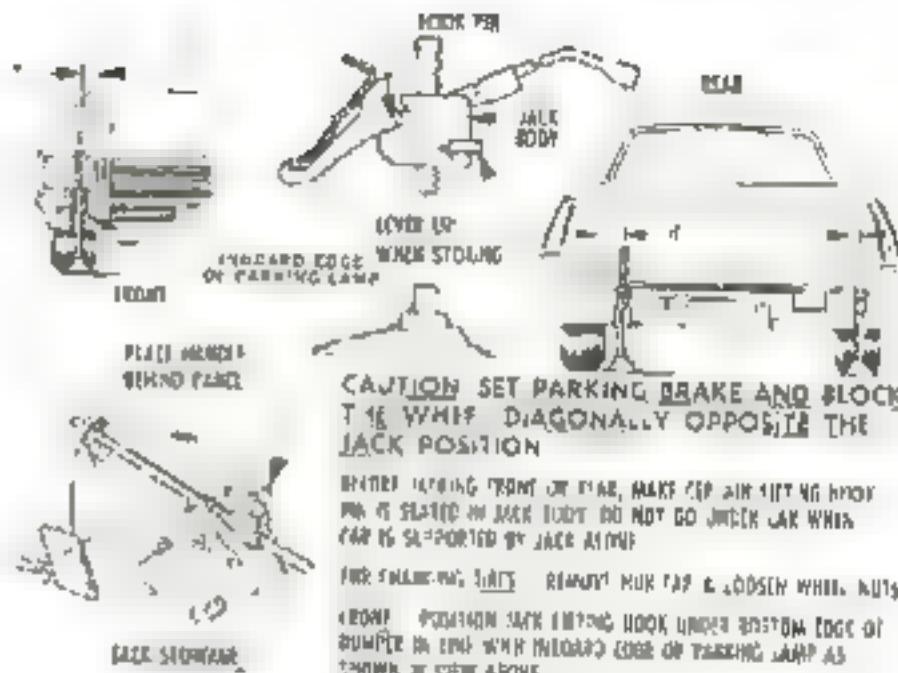
FOR CHANGING THIS REMOVE HORN PIN & LOOSEN WHEEL NUTS.

POSITION JACK LIFTING HORN UP  
UNDER THE EDGE OF BUMPER  
OUTBOARD OF EXPOSED BOLT HEAD  
AT SHOWN ANGLE.

POSITION REAR LIFTING HORN UP  
UNDER THE EDGE OF BUMPER  
OUTBOARD OF EXPOSED BOLT HEAD  
AT SHOWN ANGLE.

JACK STOWAGE

**SEDANS & COUPES**



**CAUTION: SET PARKING BRAKE AND BLOCK THE  
WHEEL DIAGONALLY OPPOSITE THE  
JACK POSITION**

BEFORE JACKING FRONT OR REAR, MAKE CERTAIN LIFTING HORN PIN IS SLOTTED IN JACK BODY. DO NOT GO UNDER CAR WHEN CAR IS SUPPORTED BY JACK ALONE.

FOR CHANGING THIS REMOVE HORN PIN & LOOSEN WHEEL NUTS.  
FRONT: POSITION JACK LIFTING HORN UNDER BOTTOM EDGE OF  
BUMPER IN LINE WITH INBOARD EDGE OF TAILING LAMP AS  
SHOWN IN VIEW ABOVE.

REAR: POSITION JACK LIFTING HORN UP UNDER INBOARD EDGE  
OF BUMPER OUTBOARD OF EXPOSED BOLT HEAD ON REAR SIDE  
AND OUTBOARD OF EXPOSED BOLT HEAD ON REAR SIDE AS SHOWN  
IN VIEW ABOVE.

**SPORTWAGON**

# APPEARANCE CARE



## CARE AND CLEANING OF INTERIOR SOFT TRIM

Dust and loose dirt that accumulates on interior fabric trim should be removed frequently with a vacuum cleaner, broom or soft brush. Vinyl or leather trim should be wiped clean with a damp cloth. Normal removable trim surface spots or stains can be cleaned with the proper use of car cleaners available through General Motors. There are other reputable supply outlets for leather cleaning to remove spots or stains from upholstered items as accurate, as possible. It is important that

or stain. Some spots or stains can be removed satisfactorily with water or mild soap solution. Refer to accompanying Removal of Specific Stains. For best results, spots or stains should be removed as soon as possible. Some types of stains are so large such as paint, some wax, certain types of grease and oil are extremely difficult and in some cases impossible to completely remove. When cleaning this type of stain or large area must be taken not to enlarge the stained area. It is sometimes more desirable to have a small stain than an enlarged mark as a result of careless clean-

**CAUTION** When cleaning interior soft trim such as upholstery or carpeting, do not use volatile cleaning solvents such as acetone, lacquer thinners, carbon tetrachloride, enamel reducers, nail polish removers, or such cleaning materials as laundry soaps, bleaches or reducing agents (except as noted in the instructions on stain removal) Never use gasoline or naptha for any cleaning purpose These materials may be toxic or flammable, or may cause damage to interior trim.

**NOTE.** Sometimes a difficult spot may require a second application of cleaning fluid followed immediately by a soft brush to completely remove the spot.

## CLEANING FABRICS WITH CLEANING FLUID

This type of cleaner should be used for cleaning stains containing grease oil or fats. Excess stain should be gently scraped off trim with a clean dull knife or scraper. Use very little cleaner, light pressure and clean cloths (preferably cheese cloth). Cleaning action with cloth should be from outside of stain towards center and constantly changing to a clean section of cloth. When stain is cleaned from fabric immediately wipe area dry with a clean absorbent towel or cheese cloth to help prevent a cleaning ring from forming. Only clean fabric area or panel section.

## CLEANING FABRICS WITH DETERGENT FOAM CLEANERS

This type of cleaner is excellent for cleaning general soiling from fabrics and for cleaning a pane section where a minor cleaning ring may be left from spot cleaning. Vacuum area to remove excess loose dirt. Always clean at least a full trim pane or section of trim. Mask adjacent trim along stitch or weld lines. Mix detergent type foam cleaners in strict accordance with directions on label of container. Use foam only on a clean sponge or soft bristle brush. Do not wet fabric excessively or rub harshly with brush. Wipe clean with a slightly damp absorbent towel or cloth. Immediately after cleaning, rub dry fabric with a dry towel or hair dryer. Rub up fabric with dry absorbent towel or cloth to restore the luster of the trim and to eliminate any dried residue.

## SEAT BELT CARE

Keep the belts clean and dry. Clean with a mild soap solution and lukewarm water. Do not bleach or dye belts since this may cause severe loss of strength.

## REMOVAL OF SPECIFIC STAINS

### CANDY

Chocolate use cloth soaked in lukewarm water other than chocolate use very hot water. Dry if necessary, clean lightly with fabric cleaning fluid.

### CHEWING GUM

Harder gum with ice cube and scrape off with dull knife. Moisten with fabric cleaning fluid and scrape again.

### FRUIT STAINS, COFFEE, LIQUOR, WINE, SOFT DRINKS, ICE CREAM AND MILK

Wipe with cloth soaked in cold water. If necessary clean lightly with fabric cleaning fluid. Scraping and water is not recommended as it might set the stain.

### CATSUP

Wipe with cloth soaked in cool water. If further cleaning is necessary, use a detergent foam cleaner.

### GREASE, OIL, BUTTER, MARGARINE AND CRAYON

Scrape off excess with dull knife. Use fat - ea 1/4 cup.

### PASTE OR WAX TYPE SHOE POLISH

Light application of fabric cleaning fluid.

### TAR

Remove excess with dull knife. Moisten with fabric cleaning fluid, scrape again, and lightly with additional cleaner.

### BLOOD

Wipe with clean cloth moistened with cold water. Use no soap.

### URINE

Sponge stain with lukewarm soap suds from mild neutral soap on clean cloth, 1 nap with cloth soaked in cold water. Saturate cloth with one part household ammonia water and 5 parts water, apply for 1 minute. Rinse with clean wet cloth.

### VOMITUS

Sponge with clean cloth dipped in clean cold water. Wash lightly with lukewarm water and mild neutral soap. If odor persists, treat area with a water baking soda solution (1 teaspoon baking soda to one cup of tepid water). Rub again with cloth and cold water. Finally if necessary clean lightly with fabric cleaning fluid.

## CARE OF THE EXTERIOR

### WASHING

Wash your Buick often, not only to maintain its beauty, but to protect its surfaces from corrosive elements.

In Summer many gravel roads are sprayed with calcium chloride to reduce dust. This can attack the chrome and other bright surfaces of your Buick and cause permanent damage if not washed off.

In Winter where salt is used to melt ice and snow your Buick's finish should be washed frequently to protect it from this corrosive element.

Road oil and tar, tree sap, chemicals from factory chimneys and other foreign matter should be avoided if possible and removed promptly if deposited on your car.

Apply wax or polish to provide maximum protection. Your Buick dealer carries a complete line of cleaners and polishes appropriate to your Buick's finish.

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**NOTE** Some chemical cleaners used for removing road oil and tar from painted surfaces may be detrimental to acrylic finishes. When purchasing a cleaner make sure that the contents can be safely used on a acrylic finish.

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### VINYL ROOF COVER

Wash frequently with soap suds, lukewarm water and a brush with soft bristles.

If cover requires additional cleaning after using soap and water, a mild foaming cleanser can be used. Rinse entire top with water, then apply cleanser to entire top. Scrub with a small, soft bristle brush adding water as necessary. Remove suds with cloth or sponge, clean again. After cleaning, rinse generously with clear water to remove all traces of cleanser.

**IMPORTANT:** Keep soaps and cleaners from running onto body and drying.

### WHITEWALL TIRES

Use mild soap, warm water and a stiff brush to remove road grime and curb dirt. For severe cases of dirt or grime, it may be necessary to use a fine steel wool. Never use gasoline, kerosene, or any oil product that will discolor or deteriorate rubber.

### METAL TRIM

Wash in clear water using a mild detergent. If rust or discoloration should appear on the chrome parts it should be treated immediately. Do not use scouring powders, cleaners, or stiff brushes which might scratch the finish.

# *SERVICE and MAINTENANCE . . . . .*

## **FUEL REQUIREMENTS**

Your Buick is designed to operate efficiently on fuel of approximately 91 Research Octene Number or higher commonly sold in the United States and Canada. Use of a fuel which is too low in anti-knock quality will result in spark knock and/or after-run. Since the anti-knock quality of all gasolines is not the same and factors such as altitude, terrain and air temperature affect operating efficiency, knocking and/or after-run may result even though you are using the fuel recommended. If these conditions persist contact your authorized Buick Dealer. In any case continuous or excessive knocking may result in engine damage and constitutes misuse of the engine for which Buick Motor Division is not responsible under the terms of the New Vehicle Warranty.

**NOTE** Read page 63 regarding the importance of using unleaded or low lead gasolines.

**Gas Cap** - The fuel tank filler cap has a two-step remove and install procedure plus a pressure relief valve.

It is equipped with a double set of locking tangs. To remove:

- Rotate cap one-half turn counterclockwise to clear the first set of tangs from the slots inside the filler neck.
- This will allow any residual pressure to escape.
- Pull the cap outward and rotate one-quarter turn counterclockwise to clear second set of tangs. Remove cap.
- To install reverse the procedure.

**NOTE:** If this cap requires a replacement only a cap with these same features should be used. Failure to use the correct cap can result in a serious malfunction of the system. Correct replacement caps may be obtained from your Buick or G.M. dealer.

## **ENGINE OIL RECOMMENDATIONS**

Use only engine oil which meets oil quality standard GM 12 M. High quality oils which are intended for service and pass car makers tests are of this quality. The oil change interval (see paragraph entitled "Engine Oil Change" on page 11) and the new vehicle warranty are based on the use of oil that meets these requirements.

**NOTE:** Non-detergent and other low quality oils are specifically not recommended. The use of proper engine oils and oil change intervals are your best assurance of continued reliability and performance from your Buick engine.

## CHECKING OIL LEVEL

The best time to check the oil level is before operating the engine or as the last step in a full stop. This will allow the normal oil accumulation in the engine to drain back in the crankcase. To check the level remove the oil gauge rod, wipe it clean and reinsert it for an accurate reading. The eye should be maintained in the safety margin neither above the Operating Range line nor below the Add 1 Qt. line. Reseat the gauge rod firmly after taking the reading.

**NOTE** The oil gauge rod is also marked "Use GM 6041-M Quality MS Oil", as a reminder to use only high quality oils as prescribed under Engine Oil recommendations.

## SUPPLEMENTAL ENGINE OIL ADDITIVES

The regular use of supplemental additives is specifically not recommended and will increase operating costs. However, in cases of specific problems which may arise under certain conditions, additives supplement are available that can effectively and economically solve these problems without causing other difficulties. For example, if higher detergency is required to reduce varnish and sludge deposits resulting from some unusual operational difficulty, a thoroughly tested and approved concentrate, Engine Oil Supplement, is available at your Buick dealer. It is suggested that in the event of an operational problem, you consult your dealer for advice.

## ENGINE OIL CHANGE INTERVAL

Change oil each 4 months. If more than 6,000 miles are driven in a 4 month period, change oil each 8,000 miles. In certain types of service, including

- operation under dusty conditions,
- trailer pulling,
- extensive idling, or
- short trip operation at freezing temperatures (engine not thoroughly warmed up)

The change interval should not exceed 2 months or 3000 miles whichever occurs first. Operation in dusty areas requires immediate change of oil. See your Buick dealer for the frequency of oil filter change and usage driving conditions.

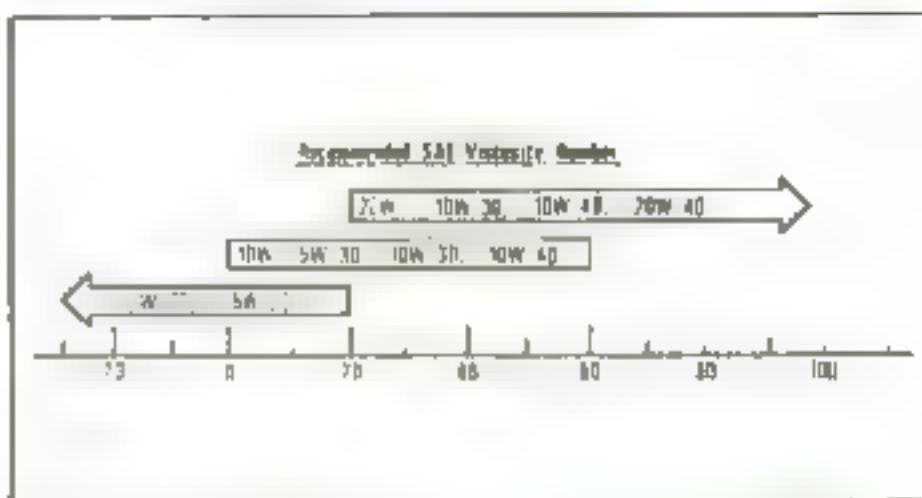
The above recommendations apply to the first change as well as subsequent oil changes. The oil change interval for your Buick engine is based on the use of oils that meet the requirements indicated in the section on Engine Oil Recommendations. Oil change intervals longer than those listed above will result in serious reduction in engine life and may affect Buick Motor Division's obligation under the provisions of the New Vehicle Warranty.

A high quality MS oil meeting General Motors Standard GM 6041-M was installed in your engine at the factory. It is not necessary to change this factory-installed oil prior to the recommended normal change period. However, the oil level should be checked more frequently during the break-in period since somewhat higher oil consumption is normal until the piston rings become sealed.

The engine oil filter should be replaced at the first oil change and every second oil change thereafter. This recommendation is based on the use of engine oils that meet the requirements indicated in the section on Engine Oil Recommendations and the use of a quality GM AC Oil Filter. These provide maximum engine protection.

## RECOMMENDED VISCOSITY

The following chart will serve as a guide for selecting the proper oil viscosity.



Temperature Range Anticipated Before Next Oil Change, F

**NOTE:** SAE 5W-20 oils are not recommended for sustained high-speed driving. SAE 30 oils may be used at temperatures above 40°F.

Proper viscosity helps assure good cold and hot lubricity, i.e., low friction and thus increasing cranking power.

## AUTOMATIC TRANSMISSION FLUID RECOMMENDATIONS

General Motors DEXRON® Automatic Transmission Fluid part no. 1050568 and United States DEXRON® Automatic Transmission Fluid which have been especially formulated and tested for use in your automatic transmission are recommended. Other automatic transmission fluids bearing the mark DEXRON® are also recommended. Check the fluid level at each engine oil change period. To make an accurate fluid level check:

Drive car several miles, making frequent starts and stops, to bring transmission up to normal operating temperature (approximatey 80-190°F).

- 2 Park car on a level surface.
- 3 Place selector lever in Park and leave engine running.
- 4 Remove dipstick and wipe clean.
- 5 Reinsert dipstick until cap seats.
- 6 Remove dipstick and note reading. If fluid level is at or below the ADD mark add sufficient fluid to raise the level to the FULL mark. One pint raises the level from ADD to FULL. Do not overfill.

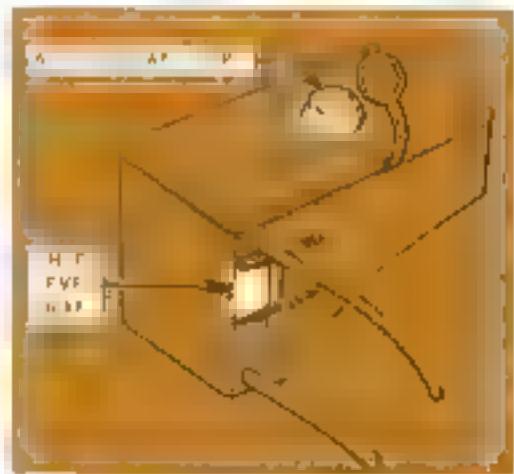
Under normal driving conditions the transmission fluid should be changed every 24,000 miles. If your car is driven extensively in heavy city traffic during hot weather or is used to pull a trailer, change fluid every 12,000 miles. Likewise, operators of cars in commercial use such as taxicab drivers or police car service, where the engine is idled for long periods, should change fluid every 12,000 miles.

## REAR AXLE (STANDARD) LUBRICANT

Every 4 months or 6,000 miles, whichever occurs first, check lubricant level and add lubricant if necessary to 11 to 13 oz of fluid plus 1/2 or 3/8 inch below. Use SAE 80 or SAE 90 GL-5 Gear Lubricant.

## ENGINE COOLING

The cooling system used on all 1971 Buicks is the semi-closed type. The radiator cap must be removed to check coolant level. It should be removed only to drain and refill the cooling system every 2 years.



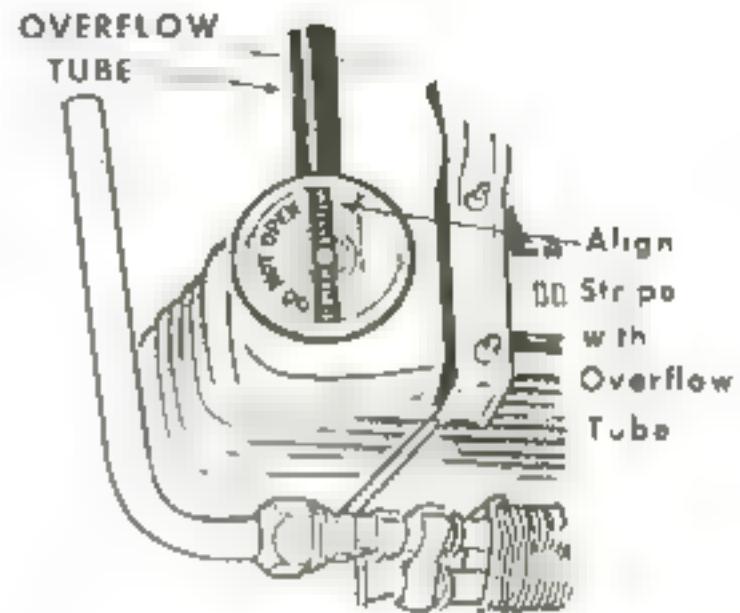
The car and the should be checked visually at the beginning of each reservoir at least every four hours when the engine is at operating temperature. If the level is full or below the ADD mark on the reservoir cap, add coolant until the level is between the FULL and ADD marks on the reservoir cap. When the tank is ADD mark a certain operating temperature and will just fill the tank with the addition of about 1/4 quart of coolant above the ADD mark.

**NOTE** Under some conditions the level may be observed below the ADD mark on the reservoir when the system cools and is below normal operating temperature.

## COOLANT RECOMMENDATIONS

The inhibited year-around engine coolant used to fill the cooling system at the factory is a high quality solution that meets General Motors Specification 1B99M. This factory coolant solution is formulated to withstand two full calendar years of normal operation without dilution. If same concentration of coolant is added to the system, no additional fluid be seen than the original factory. Coolant provides freezing protection to  $-20^{\circ}\text{F}$  ( $-32^{\circ}\text{F}$  in Canada).

**NOTE** Addition of supplemental additives or available materials which have not been specifically proved by GM are not normally required in use. Use of these materials will result in an "unwarranted expense.



Every two years, the cooling system should be serviced as follows:

- Draw coolant when hot through the radiator drain valve.
- Push the quick release cap, press down and turn cap counterclockwise to remove.

- 3 Close radiator drain valve and add sufficient water to fill system
- 4 Run engine at fast idle speed with the radiator cap removed until thermostat opens. Thermostat is open when upper radiator cap remains warm from coolant. On all cars, engine block is open. Blocks upper water temperature control valve by moving the upper thermostat to center of the maximum temperature position
- 5 Drain and refill system again and add sufficient number of new anti-freeze coolant additives
- 6 Allow system to drain completely then close radiator drain valve tightly
- 7 Remove upper hose from coolant reservoir and drain coolant from reservoir. Fill reservoir with clean water and drain. Reinstall hose
- 8 Add necessary number of coolant see Coolant Additives. Additives provide the required freezing and operating protection at least to -20 F to the radiator system's capacity and
- 9 Run engine at fast idle speed with the radiator cap removed until thermostat opens. Again on all conditions, engine block is open. Blocks upper water temperature control to maximum temperature setting. Reinstall top of upper neck with coolant. Carefully add coolant using 5/8 in cap with 1/2 in hose

- 10 Check coolant level in reservoir and add as necessary to bring level to between the FULL and ADD marks.

It is the owner's responsibility to keep the freeze protection level in the reservoir in accordance with the temperature which may occur in the area in which the vehicle will be operated. Regardless of whether freezing temperatures are or are not expected, cooling system protection should be maintained at least to -20 F to prevent inadequate cooling performance and corrosion protection. When coolant additives are required because of coolant loss or to prevent additives from freezing at temperatures lower than -20 F (-32 F in Canada), a sufficient amount of an ethylene glycol base coolant meeting GM Specification 1699-M should be used.

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**NOTE** Alcohol or methanol base coolants or plain water are not recommended for your Buick at any time.

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## **THERMOSTAT**

The cooling system is protected and controlled by a thermostat installed in the coolant constant outlet to maintain a satisfactory operating temperature of the engine. The thermostat is designed for continuous use through both winter and summer and need not be changed seasonal. If replacement is necessary, specify United Diesel Thermostats.

## RECOMMENDATIONS FOR LUBRICANTS & FLUIDS

ITEM	RECOMMENDATION	ITEM	RECOMMENDATION
Body Rubber Parts	GM silicone lubricant or equivalent.	Rear Axle, Standard	Maintain level with SAE 80 or SAE 90 GL-5 Gear Lubricant
Brake Master Cylinder	Delco Supreme #11 Hydraulic Brake Fluid or equivalent. Never use food-grade fluid, mineral oil or fluid inferior to SAE J1703.	Steering Gear Power	GM Part No. 1060017 Power Steering Gear Fluid or equivalent
Brake Mechanism Bell Adjusting	Delco Moraine Special Brake Lubricant or equivalent	Transmission Automatic	General Motors DEXRON® Automatic Transmission Fluid which has been especially formulated and tested for use in your automatic transmission is recommended. Other Automatic Transmission Fluids identified with the mark DEXRON® are also recommended.
Enzogizer (Battery)	Corrosion-free, odorless, drinking water	Transmission, Manual	GM Part No. 1060017 Power Steering Gear Fluid or equivalent.
Engine Coolant	Mixture of water and a high quality Ethylene Glycol type anti-freeze conforming to GM Spec. 1899M sufficient to maintain a minimum corrosion and freeze protection to -20°F	Wheel Bearings, Front	High melting point grease conforming to GM Specification 6031M
Front Suspension & Steering Linkage	Water resistant extreme pressure (EP) Multi-Purpose grease equivalent to GM Specification 6031M.	Windshield Washer	Use GM Optikleen windshield washer solvent to prevent freezing and for better cleaning of the windshield under all conditions.
Hinges, Latches, or Pivot Points	Engine Oil: GM Lubriplate or equivalent	BUICK RECOMMENDED 6-10 WINTER	BUICK CRC 6-56 or equivalent
Rear Axle, Positive Traction	SPECIAL LUBRICANT - REQUIRE Maintain level with SAE PC-10 or Lubriplate medium. Select oil type 10 GM Part No. 10-10-7		

## TIRES

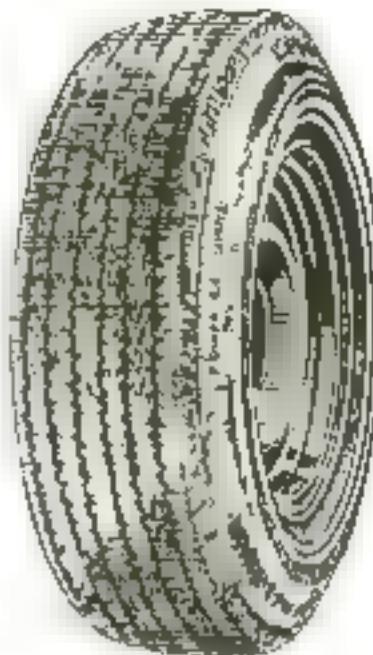
The factory installed tires on your car are selected to provide the best all-around tire performance for a normal operation. When inflated as recommended in the accompanying tire inflation pressure table, they have the load carrying capacity to operate satisfactorily at loads up to and including the load rated load specified in that table at all normal highway speeds. In addition, for those owners who prefer the utmost in comfort, optional tire inflation pressures may be used when loads of five passengers or less are carried.

For the added convenience of owners, many Buick dealers are equipped to handle tire warranty adjustments on certain makes of tires provided on 1971 Buick cars.

## TIRE TRACTION

A decrease in driving cornering and braking traction occurs when water, snow, ice, gravel or other material is on the road surface. Driving practices and car speed should be adjusted to the road conditions.

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tire and road surface. This phenomenon, known as hydroplaning, may cause partial or complete loss of traction which adversely affects vehicle control and stopping ability. To reduce the possibility of traction loss, the following precautions should be observed:



1. Slow down during rainstorms or when roads are slushy.
2. Slow down if road has standing water or puddles.
3. Face tires when tread wear indicators are visible (See Safety Checks section.)
4. Keep tires properly inflated.

If the following tire when traction is lost on ice or snow, use a Liquid Tire Chain is recommended.

## INFLATION PRESSURE

The tire inflation pressures listed in the accompanying table have been selected to provide you with the best tire life and riding comfort over the full range of normal driving conditions.

The use of improper tire inflation pressures can affect tire life and load carrying capacity, and may affect vehicle handling. Tire inflation pressures should be checked at least once a month (preferably often) to insure that the right

amount of air is contained in the tires. With regard to tire life, too little air pressure allows abnormal deflection of the tire causing excessive operating temperatures while too much air pressure prevents normal deflection, making the cord body more vulnerable to road impacts.

Use of optional inflations is allowable only with a reduced load (up to five passengers) when operating at loads greater than the optional reduced load, the inflation pressure must be increased to the standard inflation for full rated loads.

### RECOMMENDED TIRE INFLATION PRESSURES (Pounds Per Square Inch Cold)

MODEL	TIRE LOAD RANGE	STANDARD INFLATION FOR ALL LOADS INCLUDING FULL RATED LOAD		OPTIONAL INFLATION FOR REDUCED LOAD	
Sedans & Coupes (Except GS & Sportwagon)	B	1 to 6 Passengers 200 lbs. Luggage (1100 lbs. Load)	Front 26 PSI	Rear 28 PSI	1 to 5 Passengers (750 lbs. Max.) Front 24 PSI Rear 24 PSI
GS	B	1 to 6 Passengers 200 lbs. Luggage (1100 lbs. Load)	Front 28 PSI	Rear 24 PSI	1 to 5 Passengers (750 lbs. Maximum) Front 26 PSI Rear 26 PSI
Sportwagons	B	1 to 5 Passengers (750 lbs. Max.) Front 24 PSI	Rear 28 PSI	Front 24 PSI Rear 28 PSI	

- 1 Tire inflation pressure may increase as much as 6 pounds per square inch (psi) when hot
- 2 For continuous high speed operation over 5 mph increase the inflation pressure 4 pounds per sq in are over the recommended pressures up to a maximum of 32 pounds per square inch cold for load range B tires. S standard speeds above 75 mph are not recommended. If load is 4 pounds per square inch adj. standard would require pressures greater than the maximum stated above
- 3 Cool the tires down after vehicle has been inoperative for 3 hours or more, or drive no less than 1000 ft. No tire inflation pressure after vehicle has been driven 10 miles at speeds of more than 60 miles per hour
- 4 Apply your foot to the accelerator pedal as far forward as possible
- 5 Vehicles with a weight rack do not have a vehicle load limit greater than specified
- 6 When towing trailers the number of passengers and cargo load must be reduced by an amount equal to the trailer tongue load on the trailer hitch.

#### TIRE USAGE

MODELS	ENGINE	STANDARD	OPTIONAL
Skylark Skylark Custom	L-6	F78-14	G78-14
Skylark Skylark Custom	V-8	G78-14	H78-14
GS	V-8	G78-14	H78-14 G70-14 G60-15
Sportwagon	V-8	H78-14	

#### OPTIONAL TIRES

The optional tires listed in the adjacent table are not necessary on passenger cars for top speed requirements. However, an extra margin of tire clearance between these options and the vehicle adds up to and increasing of rated load. They are available on models as indicated in the table.

Only those tires of the size shown on the adjacent table are recommended for use. Use of any other size tire may seriously affect ride, ground clearance, tire clearance and speedometer calibration. To achieve best all-around vehicle handling performance, fiberglass belted tires should not be mixed on the same vehicle. Use of possible adverse effects on vehicle handling may result if using tires with other type tires on the same vehicle.

## TIRE ROTATION

To equalize wear it is recommended that the tires be rotated every 6,000 miles. Upon rotation tire pressure must be adjusted (front and rear) in accordance with the recommendations in the tire inflation pressure table.

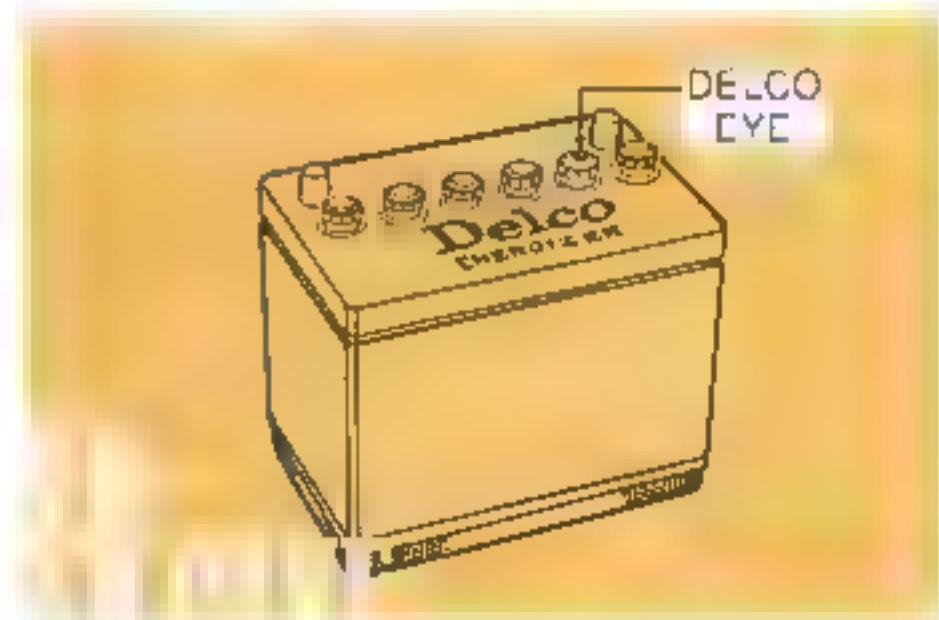
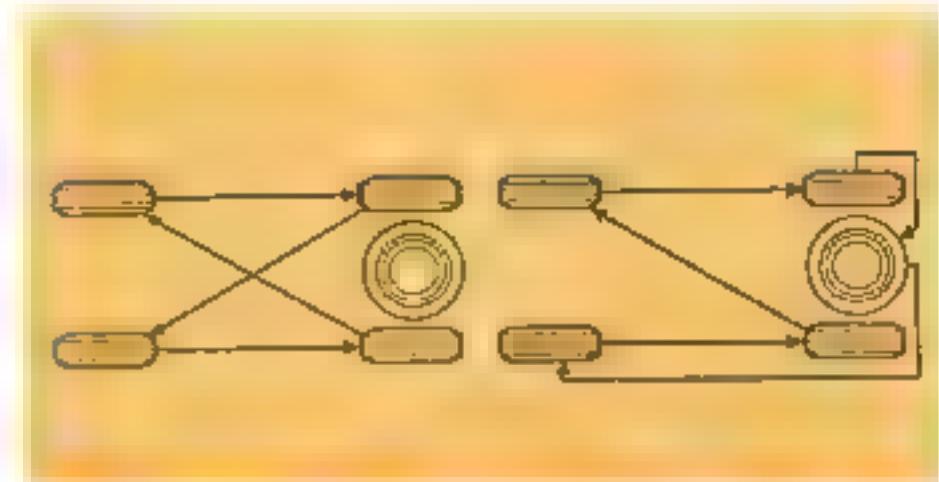
## ENERGIZER (BATTERY)

Care of the Energizer is very simple but extremely important.

- Check fluid level often. Add colorless, odorless drinking water or distilled water as required to bring level to spotting at bottom of filler well. Fluid level can be seen through Delco Eye.
  - Eye Dark — Level Correct
  - Eye Glows — Level Low
- Keep Energizer clean. Brush clean with ammonia or baking soda solution. Flush off with water.
- If Energizer performance becomes questionable, have your Buick dealer test it or the generating system.
- For maximum wattage requirements specify a Delco Energizer at replacement time.

**CAUTION.** Since normal battery or Energizer chemical action generates hydrogen gas which is explosive when mixed with air, never expose the battery to an open flame or electric spark. Also, avoid getting battery fluid on skin, on clothing or fabrics, or on painted surfaces.

Eye protection should be worn while working on the battery for any reason.



## OPERATION IN FOREIGN COUNTRIES

If you plan to operate your Buick outside the continental limits of the United States or Canada, there is a possibility that the best fuels available are so low in anti-knock quality that excessive knocking and serious engine damage may result from their use. To minimize this possibility write to Buick Motor Division, Owner Relations Department, Flint, Michigan 48550, giving

- The compression ratio and cubic inch displacement of the engine (obtain from your Dealer)
- The vehicle identification number (on plate on instrument panel ahead of the steering wheel and visible through the windshield or from registration slip or title)
- The country or countries in which you plan to travel

You will be furnished details of adjustments or modifications which should be made to your engine at your Buick Dealership prior to your departure. Failure to make the necessary changes to your car and subsequent operation under conditions of continuous or excessive knocking constitutes misuse of the engine for which the Buick Motor Division is not responsible under the terms of the Buick New Vehicle Warranty. After arriving in a foreign country, determine and use the best fuels available.

During the combustion process in an automotive engine some of the fuel hydrocarbons fail to burn completely and is discharged into the engine crankcase or exhaust system. Additional hydrocarbons are emitted into the atmosphere through evaporation of gasoline vapors from the fuel tank and carburetor. Of the total hydrocarbons coming from uncontrolled automobiles about 20% are emitted from the crankcase, 20% from the fuel system and 60% from the engine exhaust.

In addition to hydrocarbons carbon monoxide and oxides of nitrogen are also formed during the combustion process. These are also discharged into the exhaust system.

## WHAT GENERAL MOTORS HAS DONE

Since research on the control of vehicle emissions first began some 20 years ago, General Motors has developed a number of control systems which are highly effective in reducing undesirable emissions. (These systems are discussed in some detail in the following pages of this

- 1) The progress made is evidenced by a reduction in hydrocarbon emissions of 80% since 1960. Control of hydrocarbons is important since, when subjected to high temperatures the proper conditions they react with

other gases to form photochemical smog which is so prevalent in Los Angeles.

In addition, carbon monoxide emissions have been reduced by about 65% compared with 1960 model cars without controls. Although carbon monoxide does not enter into the complex photochemical smog reaction, it is toxic at high concentrations and thus, has been controlled to prevent high atmospheric concentrations.

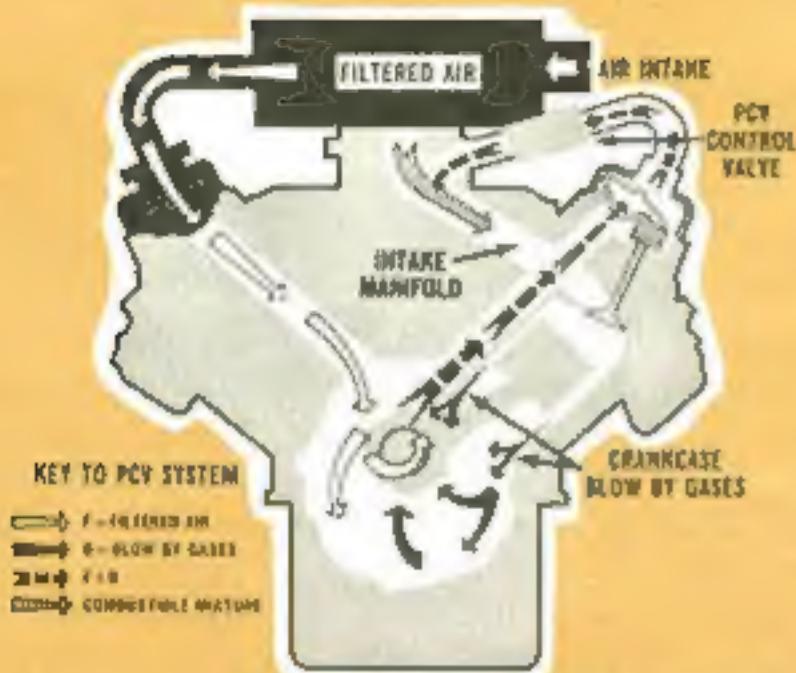
## RECENT DEVELOPMENTS

Another important advancement in air pollution control has been the removal of lead from gasoline. (Certain lead compounds have been used for many years as additives to increase octane ratings.) All 1971 General Motors cars including your Buick are designed to operate on unleaded or low-lead (zero to 0.5 grams per gallon) gasolines. However, any gasoline with 91 Research Octane Number or higher will satisfy your engine's octane requirements. Use of unleaded or low-lead gasoline will keep your engine running efficiently and play an important part in reducing exhaust emissions of hydrocarbons and particulates.

## YOUR ROLE IN CONTROLLING AIR POLLUTION

1. *Use Unleaded or Low-Lead Fuels* -- To obtain maximum results in the reduction of automotive emissions, use an unleaded gasoline. If such gasoline is not available, you may use a leaded regular grade gasoline.
2. *Have The Air Pollution Control Systems on Your Car Serviced Regularly* -- The following pages of this section describe the emission control systems on Buick vehicles and provide information on their proper maintenance. By following these recommended maintenance services you will help assure cleaner air and provide a better running, longer lasting engine and greater all around satisfaction, economy and performance.

# Positive crankcase ventilation (PCV)



**OPERATION:** All General Motors gasoline engine powered vehicles are equipped with Positive Crankcase Ventilation -- a system which permits no crankcase emission to be discharged into the atmosphere. To function properly, the system depends on the PCV Valve which returns blow-by gases to the combustion chamber where they are burned.

**MAINTENANCE:** This valve must be clean in order to maintain efficient engine operation. An inspection of the ventilation filter should be made at first oil change (4 months or 6,000 miles, whichever occurs first). At each subsequent oil change, the ventilation filter should be inspected and replaced if necessary. Replace filter at least every 24,000 miles. Under normal driving conditions, the PCV Valve should be replaced every 24 months or 24,000 miles, whichever occurs first, and all hoses and fittings should be inspected and cleaned or replaced, as necessary. Replace the PCV Valve and inspect related parts every 12 months or 12,000 miles when the vehicle is used in a service requiring more frequent engine oil change as covered on page 51.

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# Controlled combustion system (CCS)



**OPERATION:** The Control Combustion System is entirely separate from the Positive Crankcase Ventilation System and is designed to reduce pollutants in the exhaust by altering the combustion process. CCS is a combination of design features including a special air cleaner which incorporates thermostatic control of heated air to the carburetor, a special calibrated carburetor and distributor and a modified combustion chamber design.

**MAINTENANCE:** Complete effectiveness of the system, as well as full power and performance, depend upon engine idle speed, ignition timing, and dwell being set according to the specifications shown on a label under the hood. These adjustments should be checked at the first oil change (4 months or 6,000 miles, whichever comes first). Subsequent checks should be made at 12 month or 12,000 mile intervals, whichever comes first. These adjustments are also included as part of the quality tune-up recommended at the same intervals.

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